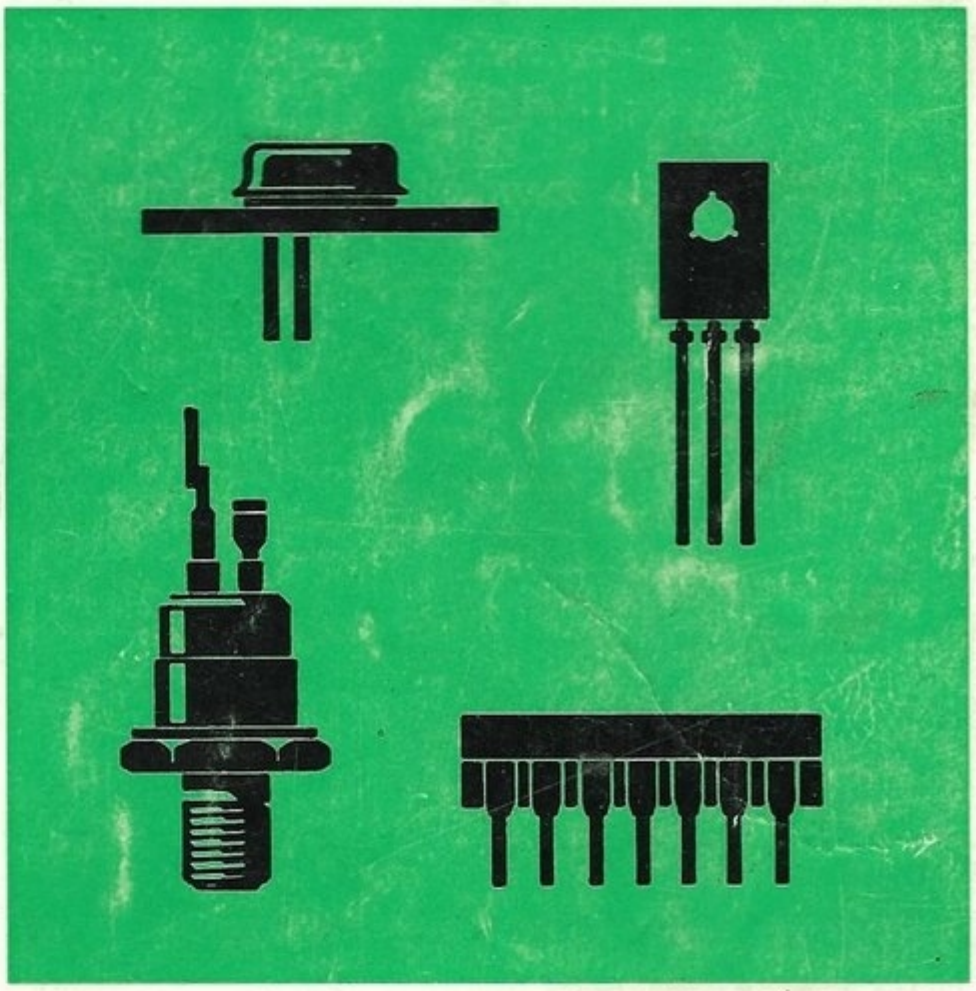
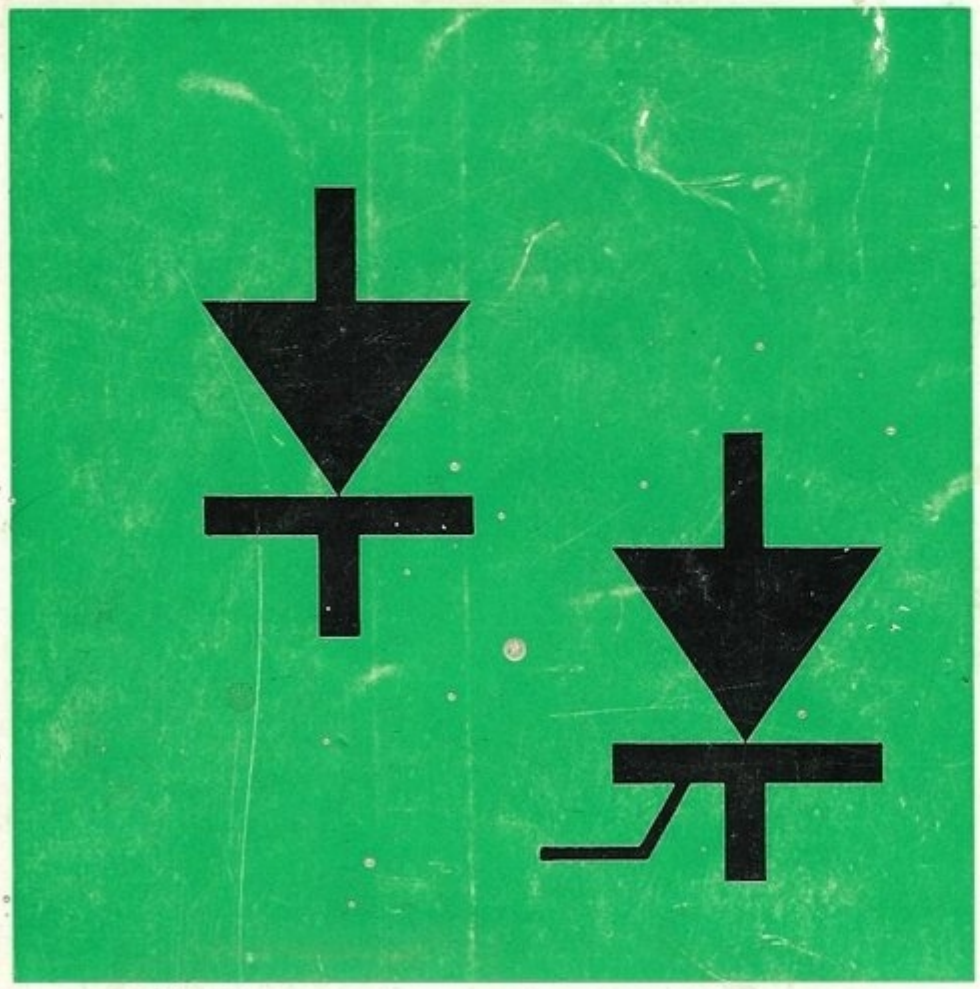
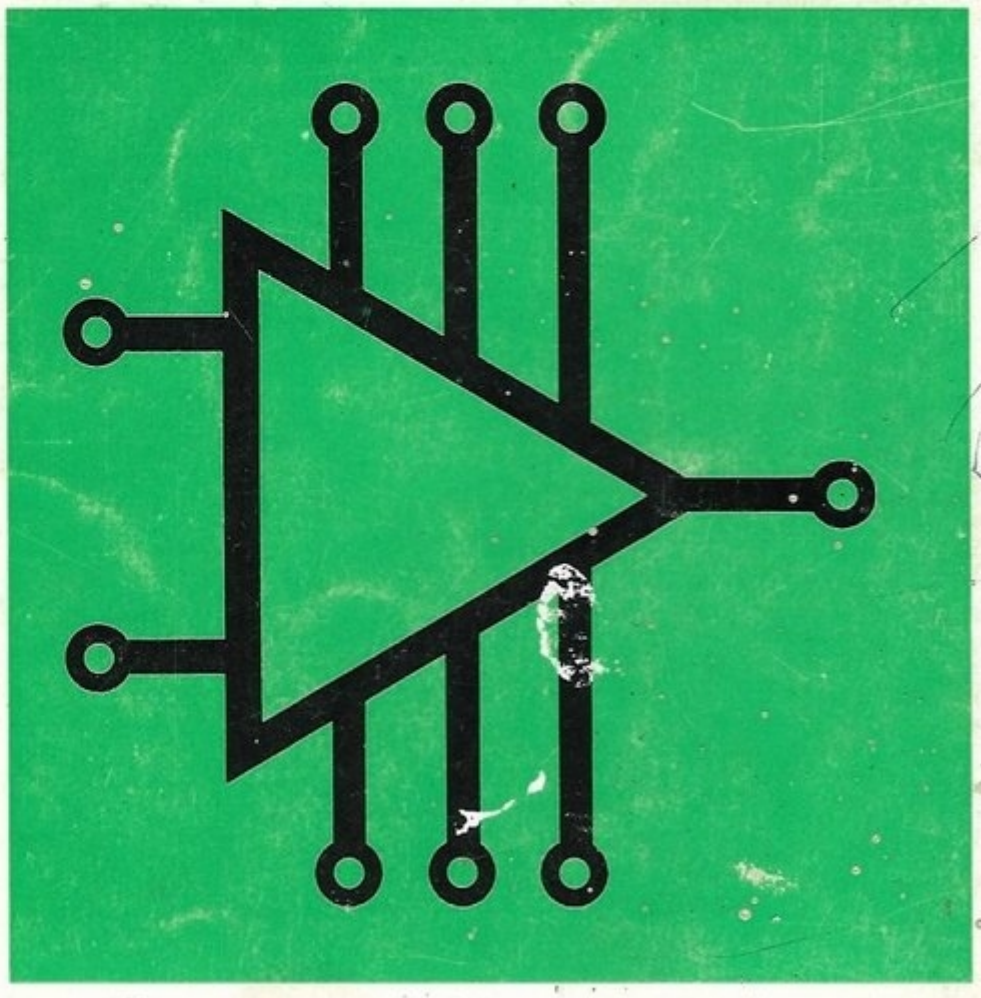
SIEMENS

Discrete Semiconductors
Integrated Circuits
Power Semiconductors

Delivery Program 1973/74







This edition contains the complete delivery program of the semiconductor department:

A Discrete Semiconductors (Industrial and Standard types)

B Integrated Circuits (Digital-, MOS- and Analog circuits)

C Power Semiconductors (Diodes, Rectifiers, Thyristors, Triacs and Heat sinks)

Please write for more information to your nearest Siemens branch.

Contents

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A Discrete Semiconductors

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A Discrete Semiconductors

1. STANDARD-Types for radio, tv and similar applications

Germanium-Diodes

Type	Reverse voltage V_R (V)	Forward voltage at I_F = 10 mA V_F (V)	Reverse current at V_R = 10 V I_R = (µA)	Application
AA 113	60	1.1 (< 1.6)	12	RF diode
AA 113 pair.				
AA 116	20	1.0	20	RF diode
AA 116 pair.				
AA 117	90	1.2	4	General-purpose
AA 118	90	1.05	2.5	diode
AA 118 pair.				
AA 119	30	1.5	4.5	RF diode
AA 119 pair.				

Silicon Diodes

Type	Reverse voltage V_R (V)	Forward voltage at I_F = 100 mA V_F (V)	Reverse current at V_R (V) I_R (µA)	Application
BA 103	6	≦ 1.0	≦ 1	Forward diode
BA 104	100	≦ 1.1	≦ 1	RF rectifier
BA 105	300	≦ 1.1	≦ 1	RF rectifier
BA 108	50	≦ 1.1	≦ 1	RF rectifier
BA 127 D	75	≦ 1.0	≦ 5	Universial diode
BA 133 F	1000	≦ 1.1 (I_F = 200 mA)	0.05 (< 1)	Mains rectifier

Silicon Switching Diode

Type	Reverse voltage V_R (V)	Max. admissible forward current I_F (mA)	Reverse current at V_R = 20 V I_R (µA)	Application
BA 182	35	100	< 0.1	VHF-switching diode

Silicon Capacitance Diodes

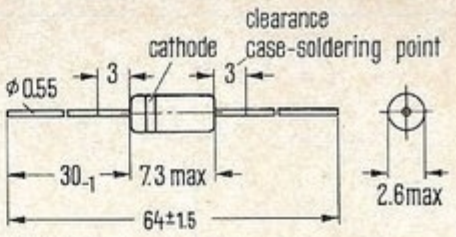
Type	Reverse voltage V_R (V)	Diodes capacitance C_D (pf)	at V_R (V)	Capacitance ratio $\frac{C_{D\ 3V}}{C_{D\ 30V}}$ $\left[\frac{C_{D\ 3V}}{C_{D\ 25V}}\right]$	Series resistance R_s ($V_R \approx 3$ V) (Ω)
BA 138 (gr)	30	3.8 to 4.9	30	2.4 to 2.7	0.8 (< 1.2)
BA 138 (red)	30	4.4 to 4.9	30	2.4 to 2.7	0.8 (< 1.2)
BA 138 (bl)	30	4.4 to 5.5	30	2.4 to 2.7	0.8 (< 1.2)
BB 103 (gr)	30	27 to 31	3	2.65	0.3 (< 0.5)
BB 103 (bl)	30	29 to 33	3	2.65	0.3 (< 0.5)
BB 104 (gr)	30	34 to 39	3	2.65	0.3 (< 0.4)
BB 104 (bl)	30	37 to 42	3	2.65	0.3 (< 0.4)
BB 105 A[2)3)]	28	2.3 to 2.8	25	[4 to 5]	0.6 (≦ 0.8)
BB 105 B[2)3)]	28	2.0 to 2.3	25	[4.5 to 6]	0.7 (≦ 0.8)
BB 105 G[2)]	28	1.8 to 2.8	25	[4 to 6]	0.9 (≦ 1.2)
BB 109 G	28	4.3 to 6	25	[5 to 6.5]	[2)3)]
BB 113	32	max. 13	30	> 20[1)]	–

Silicon PIN-Diode

Type	Reverse voltage V_R (V)	Max. admissible forward current I_F (mA)	Reverse current at V_R = 10 V I_R (µA)	Application
BA 379	20	100	< 1	UHF/VHF TV-tuner

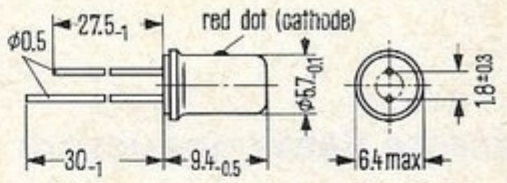
[1)] $\frac{C_{D\,1V}}{C_{D\,30V}}$ [2)] terzett. available [3)] quartett. available

AA 113, AA 116, AA 117, AA 118, AA 119, BA 127, BA 136, BA 138, BB 103



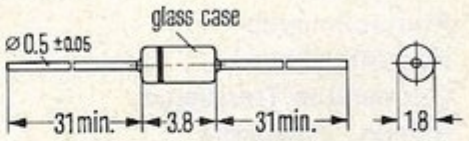
Weight approx. 0.2 g

BA 103, BA 104, BA 105, BA 108



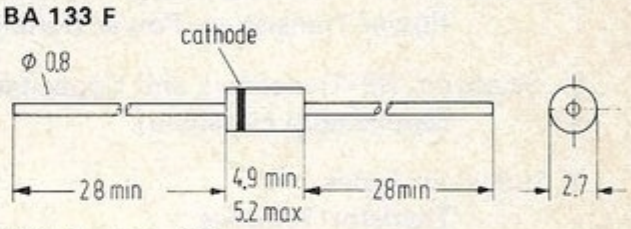
Weight approx. 1 g

BA 127 D



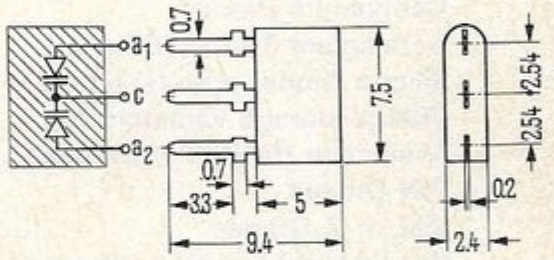
Weight approx. 0.1 g

BA 133 F



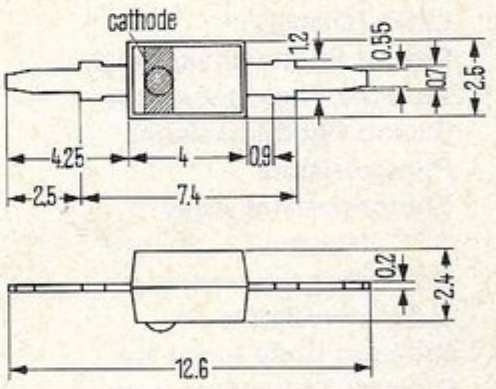
Weight approx. 0.2 g

BB 104



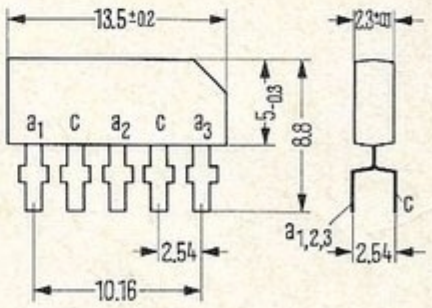
Weight approx. 0.3 g

BB 105 A, BB 105 B, BB 109 G, BA 182



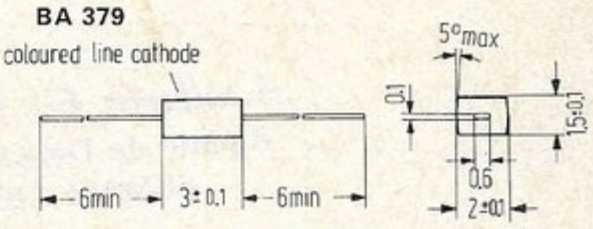
Weight approx. 0.1 g

BB 113



Weight approx. 0.1 g Dimension in mm

BA 379

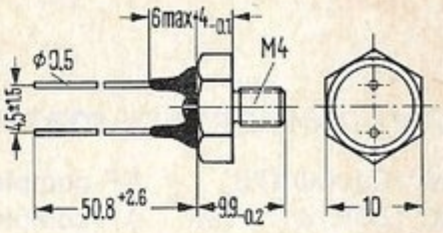


Weight approx. 0.08 g

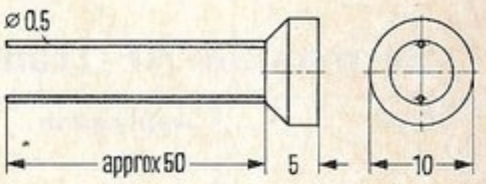
STANDARD-Types

Compensation and Measuring NTC Resistors (Thermistors)

Type	Cold-state resistance R_{20} (kΩ) ± 20%	B-Value (Tol.-Val. ± 7%)	Thermal conductance G_{thamb} (mW/° C)	Cooling time constant τ_{th} (s)	Maximum permissible temperature T (° C)	Application	Outline No.
K 25	10 25 60 150 240 1 K 6 K	2580 2800 2800 3090 3260 3530 3950	30[1]	20[1]	+ 75	Temperature-compensation Temperature-measuring Temperature-control	**1**
K 35	40	2800	20[1]	–	+ 100	Temperature-compensation	**2**
K 154		s. tabul.	8	30	+ 100		**3**
K 164		s. tabul.	7.5	15	125	stabilisation of workingpoint of transistorized amplifiers	**4**



1 Weight approx. 1 g



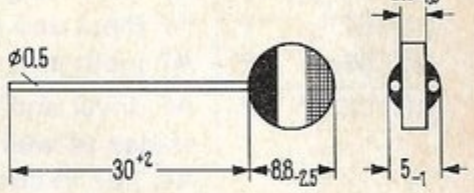
3 Weight approx. 0.6 g

K 154[2]

Production spectrum values of the cold-state resistance R_{20}, R_{25}, B-value and *TC* (negative) at 20 °C, as well as colour-coding

R_{20}	4	10	20	40	100	150	250	500	Ω
R_{25}	3,5	8,5	17	34	83	120	200	400	Ω
B[1]	2580	2700	2810	3000	3260	3530	3600	3600	K
TK	3.0	3.1	3.3	3.5	3.8	4.1	4.2	4.2	%/K
Colour code	yellow black white	brown black black	red black black	yellow black black	brown black brown	brown green brown	red green brown	green black brown	

R_{20}	1 k	2 k	5 k	10 k	25 k	60 k	Ω
R_{25}	800	1,6 k	3,9 k	8 k	20 k	45 k	Ω
B[1]	3950	3950	4250	4250	4450	4600	K
TK	4.6	4.6	5.0	5.0	5.2	5.4	%/K
Colour code	brown black red	red black red	green black red	brown black orange	red green orange	blue black orange	



2 Weight approx. 0.7 g

[1]) when mounted on a chassis

[2]) K 154 also available with a tolerance of ±10%

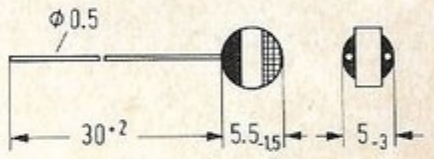
K 164

Production spectrum values of the cold-state resistance R_{25}, B-value and colour-coding

R_{25}	6,8	10	15	22	33	47	68	100	150	220	330	Ω
B	2580	2580	2900	2900	2900	3050	3050	3050	3050	3280	3480	K
Colour code	blue grey white	brown black black	brown green black	red red black	orange orange black	yellow violet black	blue grey black	brown black brown	brown green brown	red red brown	orange orange brown	

R_{25}	0.47	0.68	1	1.5	2.2	3.3	4.7	6.8	10	15	22	kΩ
B	3480	3560	3560	3850	3850	3930	3930	4050	4050	4150	4200	K
Colour code	yellow violet brown	blue grey brown	brown black red	brown green red	red red red	orange orange red	yellow violet red	blue grey red	brown black orange	brown green orange	red red orange	

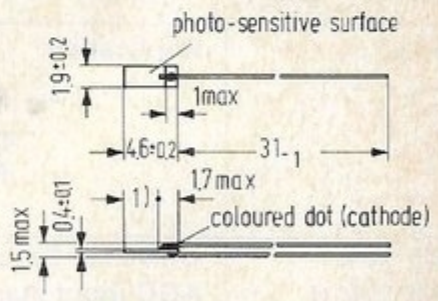
R_{25}	33	47	68	100	kΩ
B	4200	4450	4600	4600	K
Colour code	orange orange orange	yellow violet orange	blue grey orange	brown black yellow	



4 Weight approx. 0.6 g
Dimensions in mm

Photo Element

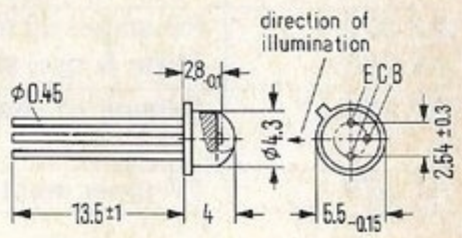
Type	Open circuit voltage at B = 100 Lux V_L (mV)	Open circuit voltage at B = 1.000 Lux V_L (mV)	Sensitivity E (nA/Lux)	Ambient temperature T_a (° C)	Color temperature of light source (° K)	Maximum reverse voltag. V_R (V)	Application	Outline
BP 100 yellow	≧ 150	≧ 230	50 (≧ 35)	−25 to +100	2400	1.0	control devices	**5**



5 Weight approx. 0.2 g

Photo Transistors

Type	Collector-Emitter-voltage V_{CEO} (V)	Photocurrent V_{CE} = 5 V, B = 1000 Lux I_P (µA)	Dark current V_{CE} = 25 V, B = 0 Lux I_{CEO} (nA)	Application	Outline
BP 101/I	32	63 to 125	5 (< 100)	Computer-flashes	**6**
BP 101/II	32	100 to 200	5 (< 100)		
BP 101/III	32	160 to 320	5 (< 100)		
BP 101/IV	32	250 to 500	5 (< 100)		
BP 102/I	32	160 to 320	5 (< 100)		
BP 102/II	32	250 to 500	5 (< 100)		
BP 102/III	32	400 to 800	5 (< 100)		
BP 102/IV	32	630 to 1250	5 (< 100)		



6 Weight approx. 0.5 g

STANDARD-Types

Complementary matched AF-Transistors

AC 153/AC 176 AF-complementary medium-power output stages
AC 153K/AC 176K AF-complementary medium-power output stages
AC 187K/AC 188K AF-complementary medium-power output stages

Germanium AF-Transistors

Type PNP = P NPN = N		Application	alloyed = L	max. ratings $-V_{CBO}$ V	$-V_{CEO}$ V	$-V_{EBO}$ V	$-I_C$ mA	T_j °C	P_{tot} mW	$R_{th\,J\,case}$ K/W	f_T MHz
AC121[1][2]	P	AF driver stages	L	20	20	10	300	90	900	≦ 50	1.5
AC151[1]	P	AF input and driver stages	L	32	24	10	200	90	900	≦ 50	1.5
AC151r[1]	P	AF input and driver stages	L	32	24	10	200	90	900	≦ 50	1.5
AC152[1][2]	P	AF driver and medium-power output stages as well as for use with AC 127 in compl. output stages	L	32	24	10	500	90	900	≦ 50	1.5
AC153[1][2]	P	AF medium-power output stages and complementary output stages PNP/NPN AC 153 (K)/AC 176 (K)	L	32	18	10	2000	90	1000	≦ 40	1.5
AC153K[1][2]	P		L	32	18	10	2000	90	1000	≦ 45[3]	1.5 (>1)
AC162	P	AF input and driver stages	L	32	24	10	200	90	900	≦ 50	1.7 (>1.3)
AC163	P	AF input and driver stages	L	32	24	10	200	90	900	≦ 50	2.3 (>1.7)
AC176[2]	N	Complementary output stages PNP/NPN AC153 (K)/AC176 (K)	L	−32	−18	−10	−2000	90	1000	40	3
AC176K[2]	N		L	−32	−18	−10	−2000	90	1000	45[3]	3
AC187K[2]	N	Complementary output stages NPN/PNP AC187 (K)/AC188 (K)	L	−25	−15	−10	−2000	90	1000	45[3]	5
AC188K[2]	P		L	25	15	10	2000	90	1000	45[3]	1. 5

PNP-Germanium-RF-Transistors

Type	Application Mesa = Me, passive surface = PA, Planar = PL		max. ratings $-V_{CBO}$ [V_{CES}] V	$-V_{CEO}$ V	$-V_{EBO}$ V	$-I_C$ mA	T_j °C	P_{tot} mW	$R_{th\,J\,amb}$ K/W	f_T MHz
AF 106	Universal RF applications	Me	25	18	0.3	10	90	60	≦ 750	220
AF 109 R	AGC input stages up to 260 MHz	Me	20	15	0.3	10	90	60	≦ 750	280
AF 139	UHF input, mixers, and osc. stages	Me	20	15	0.3	10	90	60	≦ 750	550
AF 200 U	AGC in TV IF amplifiers	Me	25	–	0.3	10	90	60	≦ 750	–
AF 201 U	TV IF amplifier	Me	25	–	0.3	10	90	60	≦ 750	–
AF 239	RF-, mixer & osc. st up to 900 MHz	Me	[20]	15	0.3	10	90	60	≦ 750	700
AF 239 S	RF-, mixer & osc. st up to 900 MHz	Me	[20]	15	0.3	10	90	60	≦ 750	780
AF 240	For diode tuned tuner up to 900 MHz	Me	[20]	15	0.3	10	90	60	≦ 750	500
AF 279	RF-stages up to 900 MHz, Diode Tuner	PA	[20]	15	0.3	10	90	60	≦ 600	780
AF 280	Mixer & osc. stages up to 900 MHz	PA	[20]	15	0.3	10	90	60	≦ 600	550
▼ **AF 306**	General RF-Application	PL	25	18	0.3	15	90	60	≦ 500	220
▼ **AF 379**	TV-tuner input stages, crossmod.	PL	20[4]	13	0.3	20	90	100	≦ 450[5]	1250

[1]) Available in various current-gain groups (see order number inventory)
[2]) Available in matched pairs
[3]) R_{thL} = Thermal resistance between collector junction and heat sink measured under the fastening screw with careful mounting
[4]) V_{CER} bei R_{BE} = 500 Ω [5]) $R_{th\,J\,case}$
▼ New Type

STANDARD-Types

Compensation and Measuring NTC Resistors (Thermistors)

Type	Cold-state resistance R_{20} (kΩ) ± 20%	B-Value (Tol.-Val. ± 7%)	Thermal conductance G_{thamb} (mW/° C)	Cooling time constant τ_{th} (s)	Maximum permissible temperature T (° C)	Application	Outline No.
K 25	10 25 60 150 240 1 K 6 K	2580 2800 2800 3090 3260 3530 3950	30[1]	20[1]	+ 75	Temperature-compensation Temperature-measuring Temperature-control	1
K 35	40	2800	20[1]	–	+ 100	Temperature-compensation	2
K 154		s. tabul.	8	30	+ 100		3
K 164		s. tabul.	7.5	15	125	stabilisation of workingpoint of transistorized amplifiers	4

K 154[2])

Production spectrum values of the cold-state resistance R_{20}, R_{25}, B-value and TC (negative) at 20 °C, as well as colour-coding

R_{20}	4	10	20	40	100	150	250	500	Ω
R_{25}	3,5	8,5	17	34	83	120	200	400	Ω
B[1])	2580	2700	2810	3000	3260	3530	3600	3600	K
TK	3.0	3.1	3.3	3.5	3.8	4.1	4.2	4.2	%/K
Colour code	yellow black white	brown black black	red black black	yellow black black	brown black brown	brown green brown	red green brown	green black brown	

R_{20}	1 k	2 k	5 k	10 k	25 k	60 k	Ω
R_{25}	800	1,6 k	3,9 k	8 k	20 k	45 k	Ω
B[1])	3950	3950	4250	4250	4450	4600	K
TK	4.6	4.6	5.0	5.0	5.2	5.4	%/K
Colour code	brown black red	red black red	green black red	brown black orange	red green orange	blue black orange	

[1]) when mounted on a chassis

[2]) K 154 also available with a tolerance of ±10%

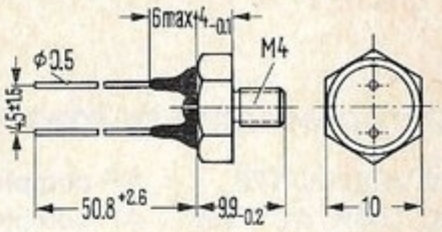
K 164

Production spectrum values of the cold-state resistance R_{25}, B-value and colour-coding

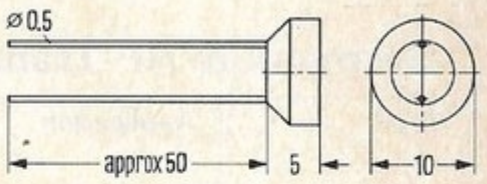
R_{25}	6,8	10	15	22	33	47	68	100	150	220	330	Ω
B	2580	2580	2900	2900	2900	3050	3050	3050	3050	3280	3480	K
Colour code	blue grey white	brown black black	brown green black	red red black	orange orange black	yellow violet black	blue grey black	brown black brown	brown green brown	red red brown	orange orange brown	

R_{25}	0.47	0.68	1	1.5	2.2	3.3	4.7	6.8	10	15	22	kΩ
B	3480	3560	3560	3850	3850	3930	3930	4050	4050	4150	4200	K
Colour code	yellow violet brown	blue grey brown	brown black red	brown green red	red red red	orange orange red	yellow violet red	blue grey red	brown black orange	brown green orange	red red orange	

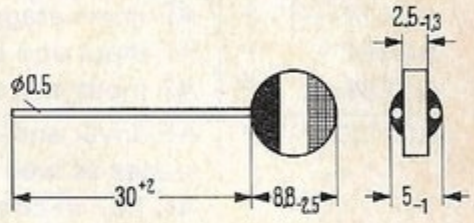
R_{25}	33	47	68	100	kΩ
B	4200	4450	4600	4600	K
Colour code	orange orange orange	yellow violet orange	blue grey orange	brown black yellow	



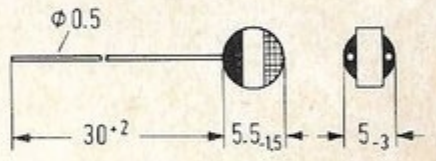
1 Weight approx. 1 g



3 Weight approx. 0.6 g



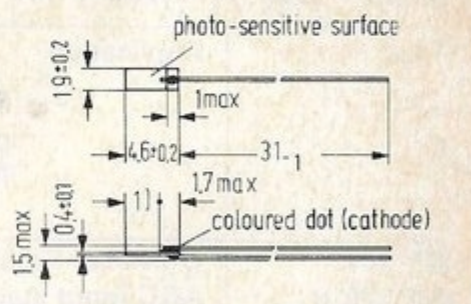
2 Weight approx. 0.7 g



4 Weight approx. 0.6 g
Dimensions in mm

Photo Element

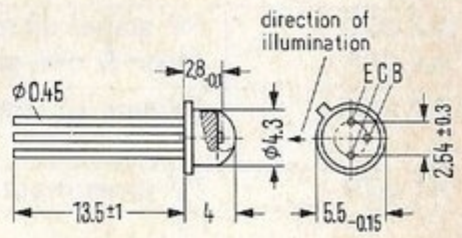
Type	Open circuit voltage at B = 100 Lux V_L (mV)	Open circuit voltage at B = 1.000 Lux V_L (mV)	Sensitivity E (nA/Lux)	Ambient temperature T_a (° C)	Color temperature of light source (° K)	Maximum reverse voltag. V_R (V)	Application	Outline
BP 100 yellow	≧ 150	≧ 230	50 (≧ 35)	–25 to +100	2400	1.0	control devices	5



5 Weight approx. 0.2 g

Photo Transistors

Type	Collector-Emitter-voltage V_{CEO} (V)	Photocurrent V_{CE} = 5 V, B = 1000 Lux I_P (µA)	Dark current V_{CE} = 25 V, B = O Lux I_{CEO} (nA)	Application	Outline
BP 101/I	32	63 to 125	5 (< 100)	Computer-flashes	6
BP 101/II	32	100 to 200	5 (< 100)		
BP 101/III	32	160 to 320	5 (< 100)		
BP 101/IV	32	250 to 500	5 (< 100)		
BP 102/I	32	160 to 320	5 (< 100)		
BP 102/II	32	250 to 500	5 (< 100)		
BP 102/III	32	400 to 800	5 (< 100)		
BP 102/IV	32	630 to 1250	5 (< 100)		



6 Weight approx. 0.5 g

Transistors

STANDARD-Types

Complementary matched AF-Transistors

AC 153/AC 176	AF-complementary medium-power output stages
AC 153K/AC 176K	AF-complementary medium-power output stages
AC 187K/AC 188K	AF-complementary medium-power output stages

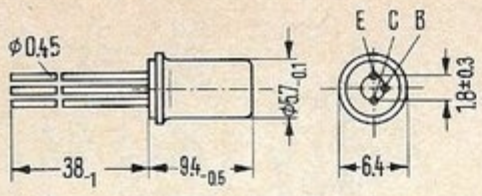
Germanium AF-Transistors

Type PNP = P NPN = N	Application	alloyed = L	max. ratings $-V_{CBO}$ V	$-V_{CEO}$ V	$-V_{EBO}$ V	$-I_C$ mA	T_j °C	P_{tot} mW	$R_{th\,J\,case}$ K/W	f_T MHz
AC121[1][2] P	AF driver stages	L	20	20	10	300	90	900	≦ 50	1.5
AC151[1] P	AF input and driver stages	L	32	24	10	200	90	900	≦ 50	1.5
AC151r[1] P	AF input and driver stages	L	32	24	10	200	90	900	≦ 50	1.5
AC152[1][2] P	AF driver and medium-power output stages as well as for use with AC 127 in compl. output stages	L	32	24	10	500	90	900	≦ 50	1.5
AC153[1][2] P	AF medium-power output stages	L	32	18	10	2000	90	1000	≦ 40	1.5
AC153K[1][2] P	and complementary output stages PNP/NPN AC 153 (K)/AC 176 (K)	L	32	18	10	2000	90	1000	≦ 45[3]	1.5 (>1)
AC162 P	AF input and driver stages	L	32	24	10	200	90	900	≦ 50	1.7 (>1.3)
AC163 P	AF input and driver stages	L	32	24	10	200	90	900	≦ 50	2.3 (>1.7)
AC176[2] N	Complementary output stages	L	−32	−18	−10	−2000	90	1000	40	3
AC176K[2] N	PNP/NPN AC153 (K)/AC176 (K)	L	−32	−18	−10	−2000	90	1000	45[3]	3
AC187K[2] N	Complementary output stages	L	−25	−15	−10	−2000	90	1000	45[3]	5
AC188K[2] P	NPN/PNP AC187 (K)/AC188 (K)	L	25	15	10	2000	90	1000	45[3]	1. 5

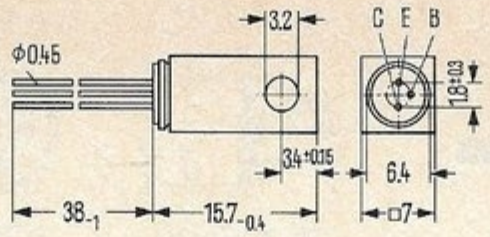
PNP-Germanium-RF-Transistors

Type	Application Mesa = Me passive surface = PA Planar = PL	max. ratings $-V_{CBO}$ [V_{CES}] V	$-V_{CEO}$ V	$-V_{EBO}$ V	$-I_C$ mA	T_j °C	P_{tot} mW	$R_{th\,J\,amb}$ K/W	f_T MHz
AF 106	Universal RF applications Me	25	18	0.3	10	90	60	≦ 750	220
AF 109 R	AGC input stages up to 260 MHz Me	20	15	0.3	10	90	60	≦ 750	280
AF 139	UHF input, mixers, and osc. stages Me	20	15	0.3	10	90	60	≦ 750	550
AF 200 U	AGC in TV IF amplifiers Me	25	–	0.3	10	90	60	≦ 750	–
AF 201 U	TV IF amplifier Me	25	–	0.3	10	90	60	≦ 750	–
AF 239	RF-, mixer & osc. st up to 900 MHz Me	[20]	15	0.3	10	90	60	≦ 750	700
AF 239 S	RF-, mixer & osc. st up to 900 MHz Me	[20]	15	0.3	10	90	60	≦ 750	780
AF 240	For diode tuned tuner up to 900 MHz Me	[20]	15	0.3	10	90	60	≦ 750	500
AF 279	RF-stages up to 900 MHz, Diode Tuner PA	[20]	15	0.3	10	90	60	≦ 600	780
AF 280	Mixer & osc. stages up to 900 MHz PA	[20]	15	0.3	10	90	60	≦ 600	550
▼ **AF 306**	General RF-Application PL	25	18	0.3	15	90	60	≦ 500	220
▼ **AF 379**	TV-tuner input stages, crossmod. PL	20[4]	13	0.3	20	90	100	≦ 450[5]	1250

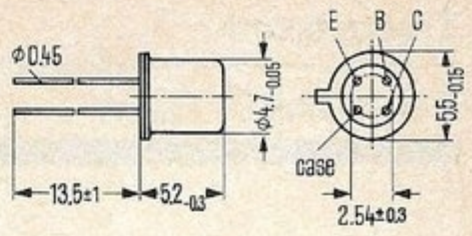
[1]) Available in various current-gain groups (see order number inventory)
[2]) Available in matched pairs
[3]) R_{thL} = Thermal resistance between collector junction and heat sink measured under the fastening screw with careful mounting
[4]) V_{CER} bei R_{BE} = 500 Ω [5]) $R_{th\,J\,case}$
▼ New Type



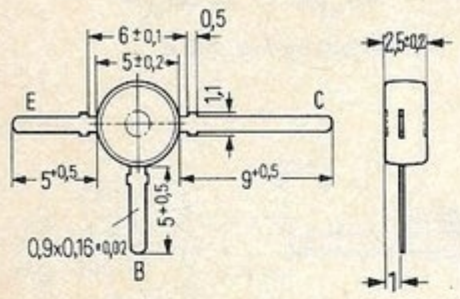
1 Weight approx. 1 g



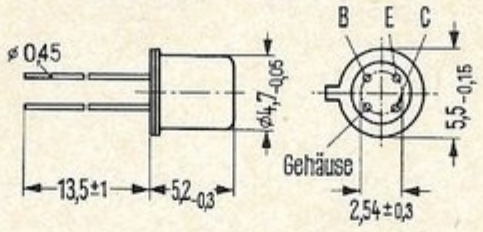
2 Weight approx. 4.8 g



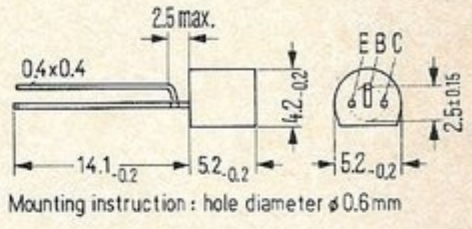
3 Weight approx. 0.4 g



4 Weight approx. 0.25 g



5 Weight approx. 0.4 g



Mounting instruction: hole diameter ϕ0.6 mm

6 Weight approx. 0.25 g

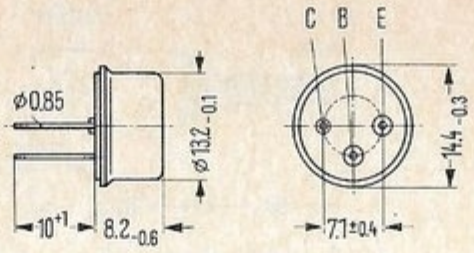
Characteristics (T_A = 25 °C)

B [β] at	$-I_C$ $-V_{CE}$ [$-V_{CB}$]		$-I_{CBO}$ at $-V_{CBO}$		Remarks	Case designation		out-line
	mA	V	µA	V		DIN 41 871	JEDEC	
30 to 250	100	0,5	5 (< 25)	20	$-V_{CEsat}$ = 0,15 (< 0,35) V at $-I_C$ = 300 mA; B = 20	1 A 3	TO-1 sim.	1
[30 to 250]	2	1	6 (< 25)	32	$-V_{CEsat}$ = 0,13 (< 0,22) V at $-I_C$ = 200 mA; B = 20	1 A 3	TO-1 sim.	1
[50 to 150]	2	1	6 (< 25)	32	F = 3 (< 6) dB, $-I_C$ = 0,5 mA; $-U_{CE}$ = 5 V; R_G = 500 Ω	1 A 3	TO-1 sim.	1
30 to 150	100	0,5	6 (< 25)	32	$-V_{CEsat}$ = 0,15 (< 0,25) V at $-I_C$ = 300 mA; B = 20	1 A 3	TO-1 sim.	1
50 to 250	300	[0]	< 10	10	$-V_{CEsat}$ = 0,16 (< 0,5) V at $-I_C$ = 1 A; B = 20	1 A 3	TO-1 sim.	1
50 to 250	300	[0]	< 10	10	$-V_{CEsat}$ = 0,16 (< 0,5) V at $-I_C$ = 1 A; B = 20	cooling. bl.	X-9 sim.	2
[80 to 170]	2	5	6 (< 25)	32	F = 4 (< 10) dB at $-I_C$ = 0,5 mA; $-V_{CE}$ = 5 V; f = 1 kHz	1 A 3	TO-1 sim.	1
[130 to 300]	2	5	6 (< 25)	32	F = 4 (< 10) dB at $-I_C$ = 0,5 mA; $-V_{CE}$ = 5 V; f = 1 kHz	1 A3	TO-1 sim.	1
50 to 250	−300	[0]	−7 (< 35)	−10	C_{CBO} = 100 pF at V_{CBO} = 5 V; f = 450 kHz	1 A 3	TO-1 sim.	1
50 to 250	−300	[0]	−7 (< 35)	−10	C_{CBO} = 100 pF at V_{CBO} = 5 V; f = 450 kHz	cooling. bl.	X-9 sim.	2
100 to 500	−300	[0]	−7 (< 35)	−10	f_β = 20 kHz at I_C = 10 mA; V_{CE} = 2 V	cooling. bl.	X-9 sim.	2
100 to 500	300	[0]	5 (< 15)	10	f_β = 10 kHz at I_C = 10 mA; V_{CE} = 2 V	cooling. bl.	X-9 sim.	2

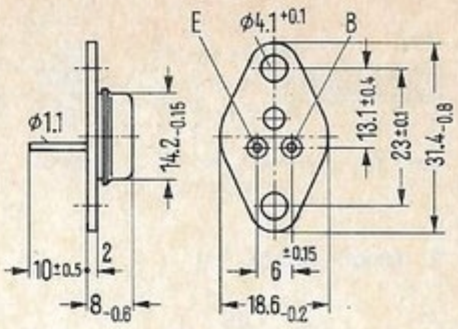
Characteristics (T_A = 25 °C)

B at	$-I_C$ $-V_{CE}$		$-I_{CBO}$ at $-V_{CBO}$		Remarks	Case designation PL = Plastic		out-line
	mA	V	µA	V		DIN 41876	JEDEC	No.
50 (> 25)	1	12	0,5 (< 10)	12	F = 5,5 (< 7,5) dB, V_{pb} = 17,5 (> 14) dB; f = 200 MHz	18 A 4	TO-72	3
50 (> 20)	1,5	12	0,5 (< 8)	20	ΔV_{pb} = 36 dB at $I_E \leq$ 9 mA	18 A 4	TO-72	3
50 (> 10)	1,5	12	0,5 (< 8)	20	F = 7,5 (≦ 9) dB; V_{pb} = 9 (≧ 6,5) dB f = 900 MHz	18 A 4	TO-72	3
85 (> 30)	3	10	0,5 (< 10)	12	ΔV_{pe} = 60 dB at f = 35 MHz	18 A 4	TO-72	5
85 (> 20)	3	10	0,5 (< 10)	12	V_{pe} = 30 (> 28) dB at f = 35 MHz	18 A 4	TO-72	5
50 (> 10)	2	10	0,5 (< 8)*	20*	F = 6 (< 7) dB; f = 900 MHz; R_G = 60Ω	18 A 4	TO-72	3
50 (> 10)	2	10	0,5 (< 8)*	20*	F < 6 dB; f = 900 MHz; R_G = 60Ω	18 A 4	TO-72	3
25 (> 10)	2	10	0,5 (< 8)*	20*	F = 6,5 dB; f = 800 MHz; R_G = 60Ω	18 A 4	TO-72	3
50 (> 10)	2	10	1 (< 15)*	20*	F = 5 dB; f = 800 MHz; R_G = 60Ω	T-Plastic	TO-50 sim.	4
25 (> 10)	2	10	1 (< 15)*	20*	F = 7 dB; f = 800 MHz; R_G = 60Ω	T-Plastic	TO-50 sim.	4
30 (> 10)	1	12	0,5 (< 10)	12	F = 5,5 (< 7,5) dB; V_{pb} = 17,5 (> 14); f = 200 MHz	10 A 3 DIN 41868	SOT-30 similar	6
80 (> 25)	2	10	< 15	20	F = 2,5 dB; f = 200 MHz; R_G = 60Ω; I_C = 2 mA; V_{CE} = 10 V	T-Plastic	TO-50 sim.	4

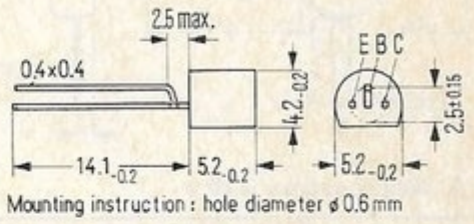
STANDARD-Types



1 Weight approx. 4.8 g



2 Weight approx. 8.3 g



Mounting instruction : hole diameter ø 0.6 mm

6 Weight approx. 0.25 g

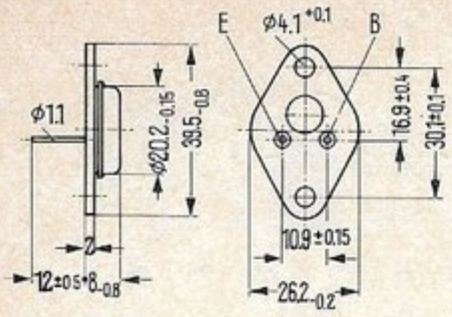
Germanium-Power Transistors

Type PNP = P NPN = N	Application	alloyed = L	Maximum ratings $-V_{CBO}$ V	$-V_{CEO}$ V	$-V_{EBO}$ V	$-I_C$ A	T_j °C	P_{tot} mW	$R_{th\,J\,case}$ K/W	f_T MHz
AD 130[1][2] P	AF power stages and switches	L	32	30	10	3	90	30000	≦ 1.5	0.35
AD 131[1][2] P		L	64	45	20	3	90	30000	≦ 1.5	0.35
AD 132[1][2] P		L	80	60	20	3	90	30000	≦ 1.5	0.35
AD 133[1] P		L	50	20	10	15	100	36000	≦ 1.5	0.30
AD 136[1] P	Switches for high currents	L	40	22	10	10	100	11000	≦ 5	0.30
■ **AD 148**[1][2] P	High-quality AF output stages	L	32	26	10	3.5	100	13500	≦ 4	0.45
AD 149[1][2] P		L	50	30	20	3.5	100	27500	≦ 2	0.50
AD 150[1][2] P		L	32	30	10	3.5	100	27500	≦ 2	0.45
AD 161[2] N	Compl. output stages NPN/PNP with AD 162	L	− 32	− 20	− 10	− 3	90	4000	≦ 4.5	3
AD 162[1][2] P	High-quality AF output stages	L	32	20	10	3	90	6000	≦ 4.5	1.5
AD 163[1] P	Switching at high voltages	L	100	80	20	3	90	30000	≦ 1.5	0.35

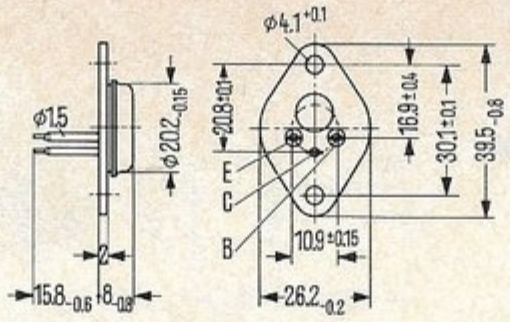
Silicon-RF-Transistors

Type PNP = P NPN = N	Application	epitaxial = E Planar = PL	Maximum ratings V_{CBO} [V_{CER}] V	V_{CEO} V	V_{EBO} V	I_C mA	T_j °C	P_{tot} mW	$R_{th\,J\,A}$ [$R_{th\,J\,case}$] K/W	f_T MHz
BF 194 N	IF amplifiers AM/FM	E, PL	30	20	5	30	125	220	≦ 450	260
BF 195 N	VHF input, mixers & oscillator stages	E, PL	30	20	5	30	125	220	≦ 450	200
BF 198 N	Controlled TV- IF amplifier stages	E, PL	40	30	4	25	150	500	≦ 250	400
BF 199 N	Noncontrolled TV- IF ampl. stages	E, PL	40	25	4	25	150	500	≦ 250	550
BF 240 N	AM/FM-IF -amplifier for controlled stages	E, PL	40	40	4	25	150	250	≦ 420	400
BF 241 N	AM/FM-IF -amplifier for noncontrolled stages	E, PL	40	40	4	25	150	250	≦ 420	400
BF 254 N	IF amplifiers AM/FM	E, PL	30	20	5	30	125	220	≦ 450	260
BF 255 N	input-mixers and oszillator stages	E, PL	30	20	5	30	125	220	≦ 450	200
BF 324 P	UHF-Tuner and input	E, PL	− 30	− 30	− 4	− 25	150	250	≦ 420	350
BF 362 N	VHF-UHF-Tuner, controlled input	E, PL	30	20	3	20	125	120	≦ 580	800
BF 363 N	VHF-UHF-Tuner, self.-osc. mixer	E, PL	30	20	3	20	125	120	≦ 580	820
BF 450 P	AM/FM-IF -amplifier for controlled stages	E, PL	− 40	− 40	− 4	− 25	150	250	≦ 420	325
BF 441 P	AM/FM-IF -amplifier for noncontrolled stages	E, PL	− 40	− 40	− 4	− 25	150	250	≦ 420	325
BF 457 N	Video TV output stages	E, PL	200	160	5	100	150	6000	≦ 110	80
BF 458 N		E, PL	250	250	5	100	150	6000	≦ 110	80
BF 459 N		E, PL	300	300	5	100	150	6000	≦ 110	80

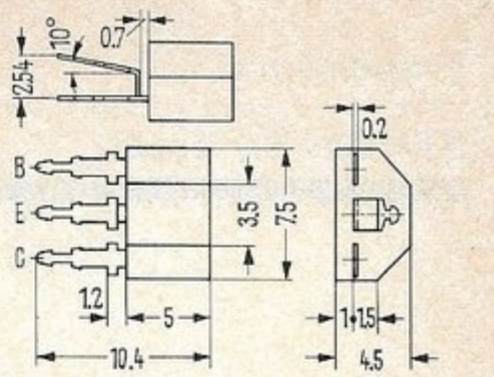
[1]) Available in various current-gain groups [2]) Available in matched pairs ■ Not for new developments [7]) Supplement BF 198 [8]) Supplement BF 199



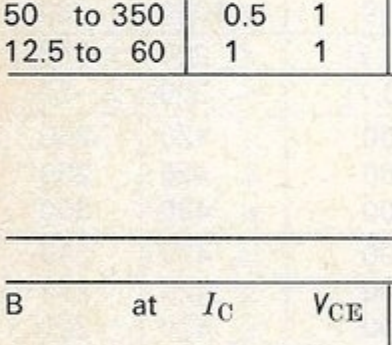
3 Weight approx. 16.5 g



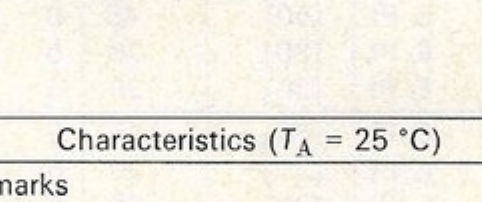
4 Weight approx. 17 g



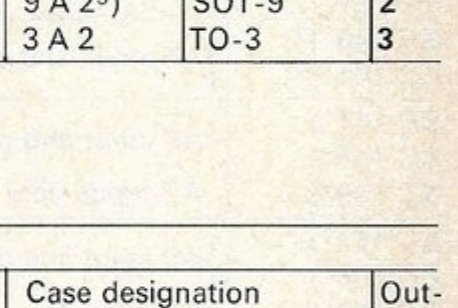
5 Weight approx. 0.3 g



7 Weight approx. 0.5 g



8 Weight approx. 0.25 g



9 Weight approx. 0.25 g

Characteristics (T_A = 25 °C)

B	at $-I_C$	$-V_{CE}$	$-I_{CBO}$ at $-V_{CBO}$ $-I_{CEV}$* at $-V_{CEV}$*		Remarks	Case designation		Out-line
	A	V	µA [mA]	V		DIN 41872	JEDEC	
20	at 100	1	1	[0.15 (< 1)]*	32*	$-V_{CE\,sat}$ = 0.5 (< 1.0) V at $-I_C$ = 3 A; B = 10	3 A 2	TO-3	**3**
20	to 100	1	1	[0.15 (< 1)]*	64*	$-V_{CE\,sat}$ = 0.5 (< 1.0) V at $-I_C$ = 3 A; B = 10	3 A 2	TO-3	**3**
20	to 100	1	1	[0.15 (< 1)]*	80*	$-V_{CE\,sat}$ = 0.5 (< 1.0) V at $-I_C$ = 3 A; B = 10	3 A 2	TO-3	**3**
20	to 100	5	0.5	[< 1]*	50*	$-V_{CE\,sat}$ = 0.3 (< 0.5) V at $-I_C$ = 15 A; B = 10	3 C 3	TO-41 sim.	**4**
30	to 150	5	0.5	[< 1]*	40*	$-V_{CE\,sat}$ = 0.22 (< 0.4) V at $-I_C$ = 10 A; B = 10	8 A 3[4])	TO-8	**1**
30	to 100	1	1	[0.15 (< 1)]*	32*	$-V_{CE\,sat}$ = 0.2 (< 0.4) V at $-I_C$ = 2 A; B = 10	9 A 2[3])	SOT-9	**2**
30	to 100	1	1	[0.15 (< 1)]*	32*	$-V_{CE\,sat}$ = 0.3 (< 0.6) V at $-I_C$ = 3 A; B = 10	3 A 2	TO-3	**3**
30	to 100	1	1	[0.15 (< 1)]*	32*	$-V_{CE\,sat}$ = 0.3 (< 0.6) V at $-I_C$ = 3 A; B = 10	3 A 2	TO-3	**3**
50	to 350	−0.5	−1	−10 (< 50)	−20	C_{CBO} = 100 pF at V_{CBO} = 5 V; f = 450 kHz	9 A 2[3])	SOT-9	**2**
50	to 350	0.5	1	7 (< 40)	20	C_{CBO} = 100 pF at $-V_{CBO}$ = 5 V; f = 450 kHz	9 A 2[3])	SOT-9	**2**
12.5	to 60	1	1	[0.15 (< 1)]*	100*	$-V_{CE\,sat}$ = 0.5 (< 1) V at $-I_C$ = 3 A; B = 10	3 A 2	TO-3	**3**

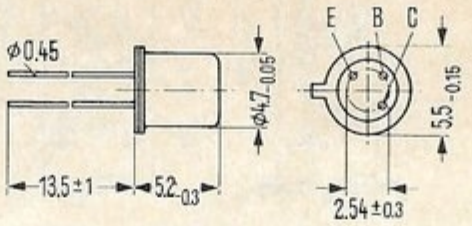
Characteristics (T_A = 25 °C)

B	at I_C	V_{CE}	I_{CBS} at V_{CBS} I_{CBO}* V_{CBO}*		Remarks	Case designation PL = Plastic		Out-line
	mA	V	nA	V		DIN 41873	JEDEC	
115	1	10	–	–	$-C_{12e}$ = 0.95 pF at I_C = 1 mA; V_{CE} = 10 V; f = 450 kHz	11A3[8])	SOT-25	**5**
67	1	10	–	–	$-C_{12e}$ = 0.95 pF at I_C = 1 mA; V_{CE} = 10 V; f = 450 kHz	11A3[8])	SOT-25	**5**
70 (> 26)	4	10	< 100*	40*	$-C_{12e}$ = 0.22 pF at I_C = 1 mA; V_{CE} = 10 V; f = 1 MHz	10A3[6])	sim. SOT-30	**8**
85 (> 38)	7	10	< 100*	40*	$-C_{12e}$ = 0.32 pF at I_C = 1 mA; V_{CE} = 10 V; f = 1 MHz	10A3[6])	sim. SOT-30	**8**
–	–	–	< 100*	20*	C_{12e} = 0.34 pF at I_C = 1 mA; V_{CB} = 10 V	10A3[6])	sim. SOT-30	**8**
–	–	–	< 100*	20*	C_{12e} = 0.34 pF at I_C = 1 mA; V_{CB} = 10 V	10A3[6])	sim. SOT-30	**8**
115	1	10	–	–	$-C_{12e}$ = 0.85 pF at I_C = 1 mA; V_{CE} = 10 V; f = 450 kHz	10A3[6])	sim. SOT-30	**8**
67	1	10	–	–	$-C_{12e}$ = 0.85 pF at I_C = 1 mA; V_{CE} = 10 V; f = 450 kHz	10A3[6])	sim. SOT-30	**8**
45	– 1	−10	– < 50*	−30*	F = 3 dB at $-I_C$ = 2 mA; $-V_{CE}$ = 10 V; f = 1 MHz	10A3[6])	sim. SOT-30	**6**
–	–	–	–	–	F = 4.5 dB at I_C = 3 mA; V_{CB} = 10 V; f = 800 MHz	T-Plastic	sim. TO-50	**9**
–	–	–	–	–	F = 5 dB at I_C = 3 mA; $-V_{CB}$ = 10 V; f = 800 MHz	T-Plastic	sim. TO-50	**9**
> 60	– 1	−10	– < 50*	−30*	F = typ 2 dB at $-I_C$ = 1 mA; $-V_{CE}$ = 10 V; f = 100 kHz	10A3[6])	sim. SOT-30	**8**
> 30	– 1	−10	– < 50*	−30*	F = typ 2 dB at $-I_C$ = 1 mA; $-V_{CE}$ = 10 V; f = 100 kHz	10A3[6])	sim. SOT-30	**8**
> 25	30	10	< 50*	100*	$V_{CE\,sat}$ = 10 V at I_C = 50 mA; f = 4.5 MHz	12A3[7])	SOT-32	**7**
> 25	30	10	< 50*	100*	$V_{CE\,sat}$ = 10 V at I_C = 50 mA; f = 4.5 MHz	12A3[7])	SOT-32	**7**
> 25	30	10	< 50*	100*	$V_{CE\,sat}$ = 13 V at I_C = 50 mA; f = 4.5 MHz	12A3[7])	SOT-32	**7**

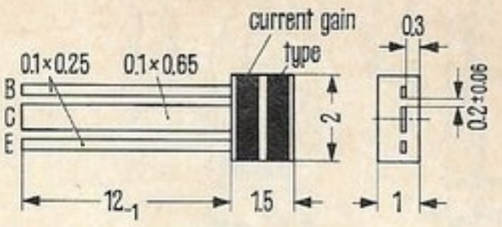
[3]) DIN 41875 [4]) DIN 41878 [5]) DIN 41876 [6]) DIN 41868 [7]) DIN 41869 page 4 [8]) DIN 41869 page 3

Transistors

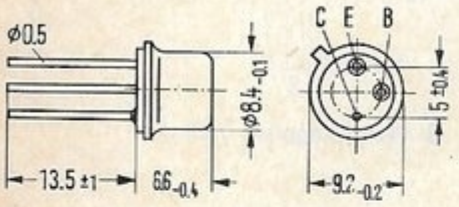
STANDARD-Types



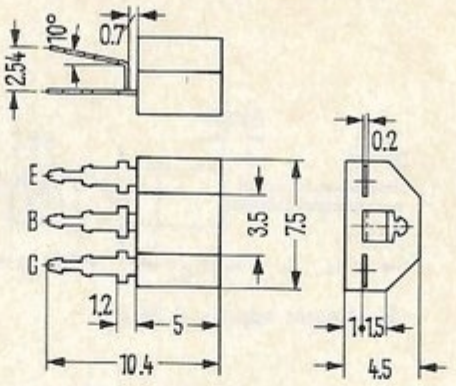
1 Weight approx. 0.33 g



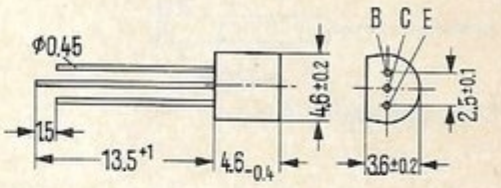
2 Weight approx. 20 mg



3 Weight approx. 1.5 g



4 Weight approx. 0.33 g



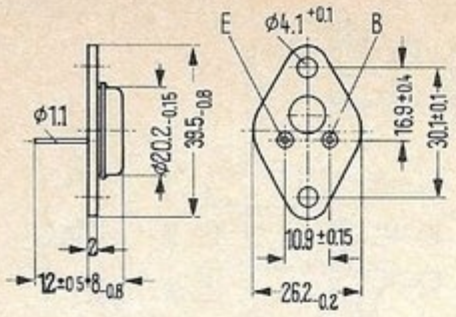
5 Weight approx. 0.25 g

NPN-Silicon-AF-Transistors

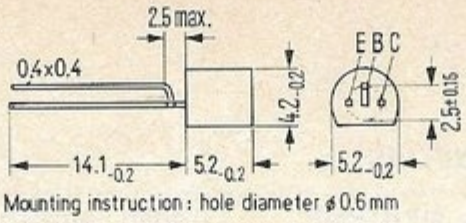
Type	Application	Single diffused = ED; Epitaxial = E; Planar = PI; Epibasis = EB; Triple diffused = DD	Maximum ratings							
			V_{CBO} [V_{CES}]	V_{CEO}	V_{EBO}	I_C	T_j	P_{tot}	R_{thJA} [$R_{thJ\,case}$]	f_T
			V	V	V	mA [A]	°C	mW [W]	K/W	MHz
BC 107[1]	AF input and driver stages	E, PI	[50]	45	6	100	175	300	≤ 500	250
BC 108[1]	Low-noise AF input stages	E, PI	[30]	20	5	100	175	300	≤ 500	250
BC 109[1]	Low-noise AF input stages	E, PI	[30]	20	5	50	175	300	≤ 500	300
BC 110	AF-amplifier	E, PI	80	80	8	50	175	300	≤ 500	100
BC 121[1]	Small-size, low-noise AF amplifiers	E, PI	5	5	5	75	150	250	≤ 1000	50
BC 122[1]	Small-size, low-noise AF amplifiers	E, PI	30	20	5	75	150	250	≤ 1000	50
BC 123[1]	Small-size, low-noise AF amplifiers	E, PI	45	30	5	75	150	250	≤ 1000	50
BC 140[1][2]	AF ampl. and switching appl.	E, PI	80	40	7	[1]	175	[3,7]	≤ 200	> 50
BC 141[1][2]	AF ampl. and switching appl.	E, PI	100	60	7	[1]	175	[3,7]	≤ 200	> 50
BC 147[1]	AF input and driver stages	E, PI	[50]	45	6	100	150	300	≤ 420	250
BC 148[1]	AF input and driver stages	E, PI	[30]	20	5	100	150	300	≤ 420	250
BC 149[1]	AF-input (low noise)	E, PI	[30]	20	5	50	150	300	≤ 420	300
BC 167[1]	AF input and driver stages	E, PI	[50]	45	6	100	150	300	≤ 420	250
BC 168[1]	AF input and driver stages	E, PI	[30]	20	5	100	150	300	≤ 420	250
BC 169[1]	AF-input (low noise)	E, PI	[30]	20	5	50	150	300	≤ 420	300
BC 182[1]	AF-input (low noise)	E, PI	60	50	6	200	150	300	≤ 400	> 150
BC 237[1]	AF input and driver stages	E, PI	[50]	45	6	100	150	300	≤ 420	250
BC 238[1]	AF input and driver stages	E, PI	[30]	20	5	100	150	300	≤ 420	250
BC 239[1]	AF-input (low noise)	E, PI	[30]	20	5	50	150	300	≤ 420	300
BC 337[1]	AF output and driver stages	E, PI	[50]	45	5	800	150	625	200	100
BC 338[1]	AF output and driver stages	E, PI	[30]	25	5	800	150	625	200	100
BC 413[1]	AF-input (low noise)	E, PI	45	30	5	100	150	300	≤ 400	250
BC 414[1]	AF-input (low noise)	E, PI	50	45	5	100	150	300	≥ 400	250
BD 130[2]	Power stages (2N3055 similar)	ED	100	60	7	[15]	200	[100]	[≤ 1,5]	1,1
BD 135[1][2]	AF-driver stage and output (mech. power)	E, PI	45	45	5	500	125	[6,5]	≤ 100	50
BD 137[1][2]	AF-driver stage and output (mech. power)	E, PI	60	60	5	500	125	[6,5]	≤ 100	50
BD 139[1][2]	AF-driver st. with h. output	E, PI	80	80	5	500	125	[6,5]	≤ 100	75
BD 233	AF-driver stages and output	EB	45	45	5	[2]	150	[25]	[5]	> 3
BD 235	AF-driver stages and output	EB	60	60	5	[2]	150	[25]	[5]	> 3
BD 237	AF-driver stages and output	EB	100	80	5	[2]	150	[25]	[5]	> 3
▼ BD 433[2]	AF-push-pull output	EB	20	20	5	[4]	150	[36]	[< 3,5]	> 3
▼ BD 435[2]	AF-push-pull output	EB	32	32	5	[4]	150	[36]	[< 3,5]	> 3
▼ BD 437[2]	AF-push-pull output	EB	45	45	5	[4]	150	[36]	[< 3,5]	> 3
▽ BD 439[2]	AF-push-pull output	EB	60	60	5	[4]	150	[36]	[< 3,5]	> 3
▽ BD 441[2]	AF-push-pull output	EB	80	80	5	[4]	150	[36]	[< 3,5]	> 3
▽ BD 533[2]	AF-push-pull output	EB	45	45	5	[4]	175	50	[< 3]	> 3
▽ BD 535[2]	AF-push-pull output	EB	60	60	5	[4]	175	50	[< 3]	> 3
▽ BD 537[2]	AF-push-pull output	EB	80	80	5	[4]	175	50	[< 3]	> 3
BU 110	For h.-defl. output st.	DD	[330]	150	6	[10]	175	[60]	[≤ 1,7]	25
BU 111	Switch for high voltages	DD	[400]	300	6	[6]	150	[50]	[≤ 2]	20
BU 114	Switch for high voltages	ED	[350]	225	6	[6][3]	150	[50]	[≤ 2]	20
▼ BU 126	Gen. switch. appl. f. high volt.	DD	750	300	6	[3]	125	[30]	[< 2,5]	8
▼ BU 310	Horizontal deflection in b/w TV-sets	DD	160	100	6	[6]	175	25	[< 3]	25
▼ BU 311	Horizontal deflection in b/w TV-sets	DD	200	125	6	[6]	175	25	[< 3]	25
▼ BU 312	Horizontal deflection in b/w TV-sets	DD	280	150	6	[6]	175	25	[< 3]	25

▼ New Type ▽ New Type available as samples [1]) Available in various current-gain groups [2]) Available in matched pairs [3]) $I_{C\,max}$

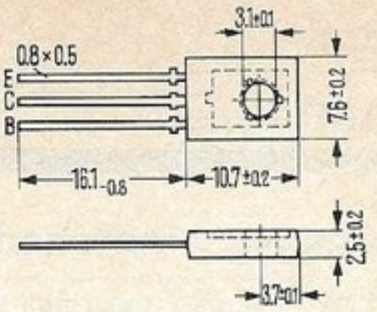
[4]) DIN 41 869 page 4



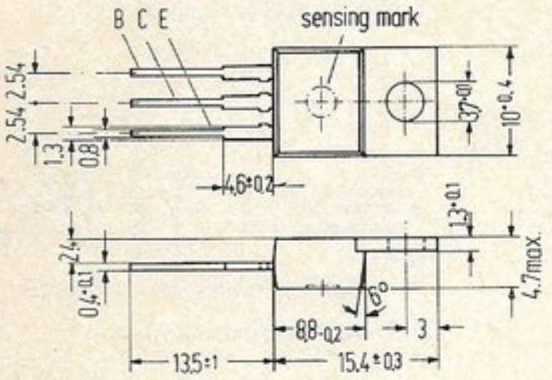
6 Weight approx. 16.5 g



7 Weight approx. 0.25 g



8 Weight approx. 0.5 g



9 Weight approx. 18 g

Characteristics (T_A = 25° C)

B [β]	at I_C	V_{CE}	I_{CBO} at I_{CES}*	V_{CBO} V_{CES}*	Remarks	Case designation PL = Plastic		out-line
	mA [A]	V	µA [nA]	V		DIN 41876	JEDEC	
[125 to 500]	2	5	[0,2 (< 15)]*	50*	$V_{CE\,sat}$ < 0,07 V at I_C = 10 mA; B = 20	18 A 3	TO-18	1
[125 to 900]	2	5	[0,2 (< 15)]*	30*	$V_{CE\,sat}$ < 0,07 V at I_C = 10 mA; B = 20	18 A 3	TO-18	1
[240 to 900]	2	5	[0,2 (< 15)]*	30*	F = < 4 dB at I_C = 0,2 mA; V_{CE} = 5 V; f = 1 kHz	18 A 3	TO-18	1
90 (> 30)	2	5	[100]	80	C_{CBO} = < 5 pF at V_{CBO} = 10 V; f = 1 MHz	18 A 3	TO-18	1
[75 to 900]	0,25	0,5	[< 10]	2	F = 2,5 (< 5) dB at I_C = 200 µA; V_{CE} = 0,5 V; f = 1 kHz	PL	U-32	2
[75 to 900]	0,25	0,5	[< 10]	15	F = 2,5 (< 5) dB at I_C = 200 µA; V_{CE} = 0,5 V; f = 1 kHz	PL	U-32	2
[75 to 500]	0,25	0,5	[< 10]	25	F = 2,5 (< 5) dB at I_C = 200 µA; V_{CE} = 0,5 V; f = 1 kHz	PL	U-32	2
40 to 250	100	1	[10(< 100)]*	60*	C_{CBO} = < 25 pF at V_{CB} = 10 V; f = 1 MHz	5 C 3[7])	TO-39	3
40 to 250	100	1	[10(< 100)]*	60*	C_{CBO} = < 25 pF at V_{CB} = 10 V; f = 1 MHz	5 C 3[7])	TO-39	3
[125 to 500]	2	5	[0,2 (< 15)]*	50*	F = 2 (< 10) dB at I_C = 0,2 mA; V_{CE} = 5 V; f = 1 kHz	11 A 3[10])	SOT-25	4
[125 to 900]	2	5	[0,2 (< 15)]*	30*	F = 2 (< 10) dB at I_C = 0,2 mA; V_{CE} = 5 V; f = 1 kHz	11 A 3[10])	SOT-25	4
[240 to 900]	2	5	[0,2 (< 15)]*	30*	F = < 4 dB at I_C = 0,2 mA; U_{CE} = 5 V; f = 1 kHz	11 A 3[10])	SOT-25	4
[125 to 500]	2	5	[0,2 (< 15)]*	50*	F = 2 (< 10) dB at I_C = 0,2 mA; V_{CE} = 5 V; f = 1 kHz	PL	TO-92	5
[125 to 900]	2	5	[0,2 (< 15)]*	30*	F = 2 (< 10) dB at I_C = 0,2 mA; V_{CE} = 5 V; f = 1 kHz	PL	TO-92	5
[240 to 900]	2	5	[0,2 (< 15)]*	30*	F = < 4 dB at I_C = 0,2 mA; V_{CE} = 5 V; f = 1 kHz	PL	TO-92	5
120 to 460	2	5	[15]	50	F = 2 (< 10) dB at I_C = 0,2 mA; V_{CE} = 5 V; f = 1 kHz	PL,10A3[9])		7
120 to 460	2	5	[0,2 (< 15)]*	50*	F = 2 (< 10) dB at I_C = 0,2 mA; V_{CE} = 5 V; f = 1 kHz	PL,10A3[9])	sim.	7
120 to 800	2	5	[0,2 (< 15)]*	30*	F = 2 (< 10) dB at I_C = 0,2 mA; V_{CE} = 5 V; f = 1 kHz	PL,10A3[9])	SOT-30	7
180 to 800	2	5	[0,2 (< 15)]*	30*	F = 4 dB at I_C = 0,2 mA; U_{CE} = 5 V; f = 1 kHz	PL,10A3[9])		7
100 to 600	100	1	2 (< 100)*	45*	$V_{CE\,sat}$ = 0,7 V at I_C = 500 mA; B = 10	PL,10A3[9])	sim.	7
100 to 600	100	1	2 (< 100)*	25*	$V_{CE\,sat}$ = 0,7 V at I_C = 500 mA; B = 10	PL,10A3[9])	SOT-30	7
180 to 460	2	5	< 15	30	F ≦ 3 dB at I_C = 0,2 mA; V_{CE} = 5 V; f = 4 kHz	PL,10A3[9])	sim.	7
380 to 800	2	5	< 15	30	F ≦ 3 dB at I_C = 0,2 mA; V_{CE} = 5 V; f = 4 kHz	PL,10A3[9])	SOT-30	7
20 to 70	[4]	4	< 5000*	100*	$V_{CE\,sat}$ = ≦ 1,1 V at I_C = 4 A; B = 10	3 A 2[6])	TO-3	6
40 to 250	150	2	[< 100]	30	$V_{CE\,sat}$ = 0,6 V at I_C = 500 mA; B = 10	12 A 3[4])	SOT-32	8
40 to 160	150	2	[< 100]	30	$V_{CE\,sat}$ = 0,6 V at I_C = 500 mA; B = 10	12 A 3[4])	SOT-32	8
40 to 160	150	2	[< 100]	30	$V_{CE\,sat}$ = 0,6 V at I_C = 500 mA	PL	SOT-32	8
> 40	150	2	< 100	45	$V_{CE\,sat}$ < 0,6 V at I_C = 1 A; I_B = 100 mA	12 A 3[4])	SOT-32	8
> 40	150	2	< 100	60	$V_{CE\,sat}$ < 0,6 V at I_C = 1 A; I_B = 100 mA	12 A 3[4])	SOT-32	8
> 40	150	2	< 100	100	$V_{CE\,sat}$ < 0,6 V at I_C = 1 A; I_B = 100 mA	12 A 3[4])	SOT-32	8
85 to 475	500	1	< 100	22	$V_{CE\,sat}$ < 0,8 V at I_C = 2 A for the characteristic I_B = constant, through the point I_C = 2,2 A; U_{CE} = 1 V	12 A 3[4])	SOT-32	8
85 to 475	500	1	< 100	32		12 A 3[4])	SOT-32	8
85 to 475	500	1	< 100	45		12 A 3[4])	SOT-32	8
> 40	500	1	< 100	60	$V_{CE\,sat}$ < 0,8 V at I_C = 2 A, I_B = 200 mA	12 A 3[4])	SOT-32	8
> 40	500	1	< 100	80		12 A 3[4])	SOT-32	8
> 40	500	2	< 100	45	$V_{CE\,sat}$ < 0,8 V at I_C = 2 A, U_{CE} = 200 mA		TO-220AB (TOP 66)	9
> 40	500	2	< 100	60				9
> 40	500	2	< 100	80				9
> 5	[7]	1,5	< 1000*	330*	$V_{CE\,sat}$ = < 1,5 V; I_C = 7 A; I_B = 1,4 A	3 A 3[6])	TO-3	6
> 5	[3]	5	< 2000*	400*	$V_{CE\,sat}$ = < 1,5 V; I_C = 3 A; I_B = 1 A	3 A 2[6])	TO-3	6
> 5	[3]	5	< 1000*	200*	$V_{CE\,sat}$ = < 1,5 V; I_C = 3 A; I_B = 1 A	3 A 2[6])	TO-3	6
typ. 30	[1]	5	< 1000*	750*	$V_{CE\,sat}$ < 10 V at I_C = 4 A, I_B = 800 mA	3 A 2[6])	TO-3	6
> 20	[5]	1,5	–	–	$V_{CE\,sat}$ < 0,5 V at I_C = 5 A, I_B = 500 mA	3 A 2[6])	TO-3	6
> 15	[5]	1,5	–	–	$V_{CE\,sat}$ < 1 V at I_C = 5 A, I_B = 500 mA	3 A 2[6])	TO-3	6
> 10	[5]	1,5	–	–	$V_{CE\,sat}$ < 1,5 V at I_C = 5 A, I_B = 500 mA	3 A 2[6])	TO-3	6

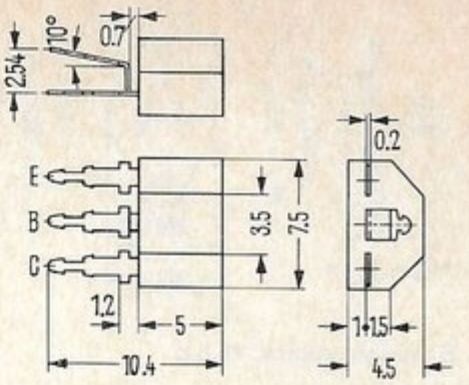
[6]) DIN 41872 [7]) DIN 41873 [8]) DIN 41875 [9]) DIN 41868 (previous TO-92z) [10]) DIN 41869 page 3

Transistors

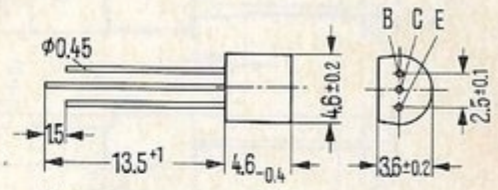
STANDARD-Types

Complementary matched AF-Transistors

Type NPN/PNP	Applic., push-pull stages	Type NPB/PNP	Applic., push-pull stages
BC 140/BC 160	AF-ampl. and switch applic.	▼ **BD 433/BD 434**	AF-push-pull output stages
BC 141/BC 161	AF-ampl. and switch applic.	▼ **BD 435/BD 436**	AF-push-pull output stages
BC 337/BC 327	AF-driver and output stages	▼ **BD 437/BD 438**	AF-push-pull output stages
BC 338/BC 328	AF-driver and output stages	▽ **BD 439/BD 440**	AF-push-pull output stages
BD 135/BD 136	AF-driver and output stages	▽ **BD 441/BD 442**	AF-push-pull output stages
BD 137/BD 138	AF-driver and output stages	▽ **BD 533/BD 534**	AF-push-pull output stages
BD 139/BD 140	AF-driver and output stages	▽ **BD 535/BD 536**	AF-push-pull output stages
		▽ **BD 537/BD 538**	AF-push-pull otuput stages



1 Weight approx. 0.33 g



5 Weight approx. 0.25 g

PNP-Silicon-AF-Transistors

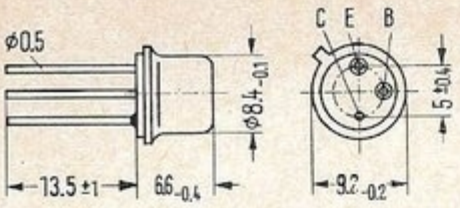
Application: planar = Pl; epitaxial = E; epitaxial basis = EB

Type	Application		Maximum ratings							
			$-V_{CBO}$ [$-V_{CES}$]	$-V_{CEO}$	$-V_{EBO}$	$-I_C$	T_j	P_{tot}	$R_{th\,JA}$	f_T
	(NPN complementary transistor resp.)		V	V	V	mA [A]	°C	mW [W]	K/W	MHz
BC 157[1]	AF input and driver stages	(BC 147) E, Pl	[50]	45	5	100	150	300	≤ 420	130
BC 158[1]	AF input and driver stages	(BC 148) E, Pl	[30]	25	5	100	150	300	≤ 420	130
BC 159[1]	AF-input (low noise)	(BC 149) E, Pl	[25]	20	5	50	150	300	≤ 420	130
BC 160[1][2]	AF amplifiers and switching appl.	(BC 140) E, Pl	40	40	5	1000	175	[3,2]	≤ 200	> 50
BC 161[1][2]	AF amplifiers and switching appl.	(BC 141) E, Pl	60	60	5	1000	175	[3,2]	≤ 200	> 50
BC 177[1]	AF input and driver stages	(BC 107) E, Pl	[50]	45	5	100	175	300	≤ 500	130
BC 178[1]	AF input and driver stages	(BC 108) E, Pl	[30]	25	5	100	175	300	≤ 500	130
BC 179[1]	AF-input (low noise)	(BC 109) E, Pl	[25]	20	5	50	175	300	≤ 500	130
BC 201[1]	low noise AF amplifiers	(BC 121) E, Pl	5	5	5	75	150	250	≤ 1000	80
BC 202[1]	low noise AF amplifiers	(BC 122) E, Pl	30	20	5	75	150	250	≤ 1000	80
BC 203[1]	low noise AF amplifiers	(BC 123) E, Pl	45	30	5	75	150	250	≤ 1000	80
BC 212[1]	AF input and driver stages	(BC 182) E, Pl	60	50	5	200	150	300	≤ 400	200
BC 257[1]	AF input and driver stages	(BC 167) E, Pl	[50]	45	5	100	150	300	≤ 420	130
BC 258[1]	AF input and driver stages	(BC 168) E, Pl	[30]	25	5	100	150	300	≤ 420	130
BC 259[1]	AF-input (low noise)	(BC 169) E, Pl	[25]	20	5	50	150	300	≤ 420	130
BC 307[1]	AF input and driver stages	(BC 237) E, Pl	[50]	45	5	100	150	300	≤ 420	130
BC 308[1]	AF input and driver stages	(BC 238) E, Pl	[30]	25	5	100	150	300	≤ 420	130
BC 309[1]	AF-input (low noise)	(BC 239) E, Pl	[25]	20	5	50	150	300	≤ 420	130
BC 327[1]	AF output and driver stages	(BC 337) E, Pl	[50]	45	5	800	150	625	≤ 200	100
BC 328[1]	AF output and driver stages	(BC 338) E, Pl	[30]	25	5	800	150	625	≤ 200	100
BC 415[1]	AF-input (low noise)	E, Pl	45	35	5	100	150	300	≤ 400	200
BC 416[1]	AF-input (low noise)	E, Pl	50	45	5	100	150	300	≤ 400	200
BD 136[1][2]	AF output and driver stages	(BD 135) E, Pl	45	45	5	500	125	[6,5]	≤ 100	> 50
BD 138[1][2]	AF output and driver stages	(BD 137) E, Pl	60	60	5	500	125	[6,5]	≤ 100	> 50
BD 140[1][2]	AF-driver stages with high output power	(BD 139) E, Pl	80	80	5	500	125	[6,5]	≤ 100	> 75
BD 234	AF output and driver stages	EB	45	45	5	[2]	150	[25]	[< 5]	> 3
BD 236	AF output and driver stages	EB	60	60	5	[2]	150	[25]	[< 5]	> 3
BD 238	AF output and driver stages	EB	100	80	5	[2]	150	[25]		> 3
▼ **BD 434**[2]	AF-push-pull-output stages	EB	22	22	5	[4]	150	[36]	[< 3,5]	> 3
▼ **BD 436**[2]	AF-push-pull-output stages	EB	32	32	5	[4]	150	[36]	[< 3,5]	> 3
▼ **BD 438**[2]	AF-push-pull-output stages	EB	45	45	5	[4]	150	[36]	[< 3,5]	> 3
▽ **BD 440**[2]	AF-push-pull-output stages	EB	60	60	5	[4]	150	[36]	[< 3,5]	> 3
▽ **BD 442**[2]	AF-push-pull-output stages	EB	80	80	5	[4]	150	[36]	[< 3,5]	> 3
▽ **BD 534**[2]	AF-push-pull-output stages	EB	45	45	5	[4]	175	50	[< 3]	> 3
▽ **BD 536**[2]	AF-push-pull-output stages	EB	60	60	5	[4]	175	50	[< 3]	> 3
▽ **BD 538**[2]	AF-push-pull-output stages	EB	80	80	5	[4]	175	50	[< 3]	> 3

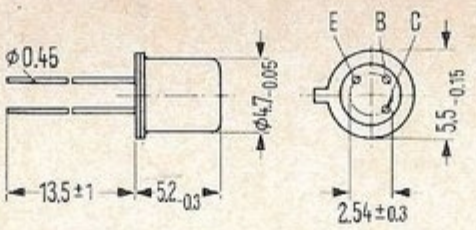
NPN- and (PNP)-Silicon-AF-Darlingtonstages

▽ **BD 675**	AF-output-TV-technique	EB	45	45	5	[4]	150	40	[3,12]	> 1
▽ **BD 677**	AF-output-TV-technique	EB	60	60	5	[4]	150	40	[3,12]	> 1
▽ **BD 679**	AF-output-TV-technique	EB	80	80	5	[4]	150	40	[3,12]	> 1
▽ **(BD 676)**	AF-output-TV-technique	EB	45	45	5	[4]	150	40	[3,12]	> 1
▽ **(BD 678)**	AF-output-TV-technique	EB	60	60	5	[4]	150	40	[3,12]	> 1
▽ **(BD 680)**	AF-output-TV-technique	EB	80	80	5	[4]	150	40	[3,12]	> 1

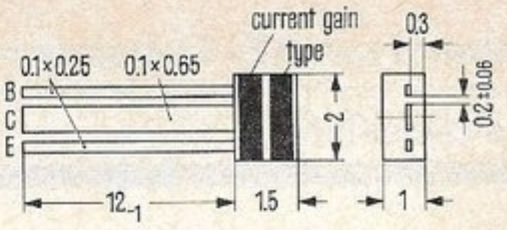
▽ New type, available as samples
▼ New Type
[1]) Available in various current-gain groups
[2]) Available in matched pairs



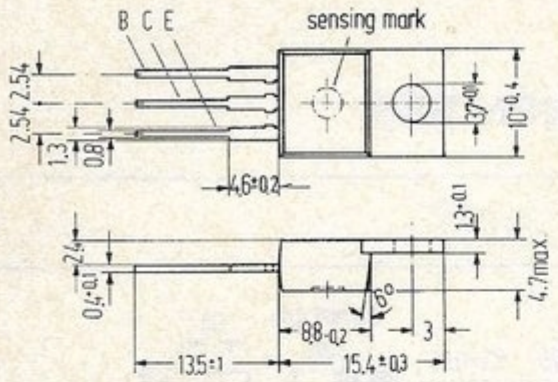
2 Weight approx. 1.5 g



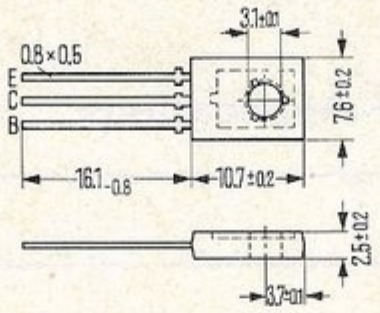
3 Weight approx. 0.33 g



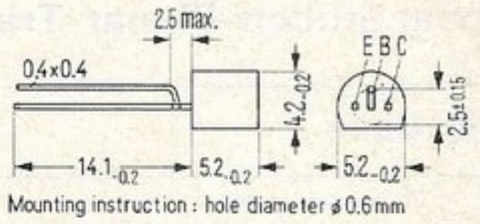
4 Weight approx. 20 mg



6 Weight approx. 18 g



7 Weight approx. 0.5 g



Mounting instruction : hole diameter ø 0.6 mm

8 Weight approx. 0.25 g

Characteristics (T_A = 25 °C)

B [β]	at $-I_C$ mA	$-V_{CE}$ / $-V_{CB}$* V	$-I_{CBO}$ / $-I_{CES}$* nA	at $-V_{CBO}$ / $-V_{CES}$* V	Remarks	Case designation PL = Plastic DIN 41876	JEDEC	Outline
[75 to 260]	2	5*	2 (< 100)*	20*	F = < 10 dB at $-I_C$ = 0,2 mA; $-V_{CE}$ = 5 V; f = 1 kHz	11 A 3[6]	SOT-25	1
[75 to 500]	2	5*	2 (< 100)*	20*	F = < 10 dB at $-I_C$ = 0,2 mA; $-V_{CE}$ = 5 V; f = 1 kHz	11 A 3[6]	SOT-25	1
[125 to 500]	2	5*	2 (< 100)*	20*	F = < 4 dB at $-I_C$ = 0,2 mA; $-V_{CE}$ = 5 V; f = 1 kHz	11 A 3[6]	SOT-25	1
[40 to 250]	100	1	10 (< 100)*	40*	$-V_{CEsat}$ = 0,6 (< 1,0) at $-I_C$ = 1 A; B = 10	5 C 3[3]	TO-39	2
[40 to 250]	100	1	10 (< 100)*	60*	$-V_{CEsat}$ = 0,6 (< 1,0) at $-I_C$ = 1 A; B = 10	5 C 3[3]	TO-39	2
[75 to 260]	2	5*	2 (< 100)*	20*	F = < 10 dB at $-I_C$ = 0,2 mA; $-V_{CE}$ = 5 V; f = 1 kHz	18 A 3	TO-18	3
[75 to 500	2	5*	2 (< 100)*	20*	F = < 10 dB at $-I_C$ = 0,2 mA; $-V_{CE}$ = 5 V; f = 1 kHz	18 A 3	TO-18	3
[125 to 500]	2	5*	2 (< 100)*	20*	F = < 4 dB at $-I_C$ = 0,2 mA; $-V_{CE}$ = 5 V; f = 1 kHz	18 A 3	TO-18	3
[50 to 500]	0,25	0,5	2 (< 100)	2	F = 2,5 (< 10) dB; $-I_C$ = 0,20 mA; $-V_{CE}$ = 0,5 V	PL	U-32	4
[50 to 260]	0,25	0,5	2 (< 100)	15	F = 2,5 (< 10) dB; $-I_C$ = 0,20 mA; $-V_{CE}$ = 0,5 V	PL	U-32	4
[50 to 260]	0,25	0,5	2 (< 100)	25	F = 2,5 (< 10) dB; $-I_C$ = 0,20 mA; $-V_{CE}$ = 0,5 V	PL	U-32	4
70 to 460	2	5	< 15	30	F = 2 (< 10) dB; $-I_C$ = 0,2 mA; $-V_{CE}$ = 5 V; f = 1 kHz	10 A 3[4]	SOT-30 sim.	8
[75 to 260]	2	5*	2 (< 100)*	20*	F = < 10 dB at $-I_C$ = 0,2 mA; $-V_{CE}$ = 5 V; f = 1 kHz	PL	TO-92	5
[75 to 500]	2	5*	2 (< 100)*	20*	F = < 10 dB at $-I_C$ = 0,2 mA; $-V_{CE}$ = 5 V; f = 1 kHz	PL	TO-92	5
[125 to 500]	2	5*	2 (< 100)*	20*	F = < 4 dB at I_C = 0,2 mA; $-V_{CE}$ = 5 V; f = 1 kHz	PL	TO-92	5
70 to 220	2	5	2 (< 100)*	20*	F < 10 dB; $-I_C$ = 0,2 mA; $-V_{CE}$ = 5 V	10 A 3[4]	sim. SOT-30	8
70 to 460	2	5	2 (< 100)*	20*	F < 10 dB; $-I_C$ = 0,2 mA; $-V_{CE}$ = 5 V	10 A 3[4]		8
70 to 460	2	5	2 (< 100)*	20*	F = 2 (< 4) dB; $-I_C$ = 0,2 mA; $-V_{CE}$ = 5 V	10 A 3[4]		8
100 to 600	100	1	2 (< 100)*	45*	$-V_{CEsat}$ < 0,7 V at $-I_C$ = 500 mA; B = 10	10 A 3[4]	sim.	8
100 to 600	100	1	2 (< 100)*	25*	$-V_{CEsat}$ < 0,7 V at $-I_C$ = 500 mA; B = 10	10 A 3[4]	SOT-30	8
120 to 800	2	5	< 15	30	$-V_{CEsat}$ = 0,25 (< 0,6) at $-I_C$ = 100 mA	10 A 3[4]	SOT-30	8
120 to 800	2	5	< 15	30	$-V_{CEsat}$ = 0,25 (< 0,6) at $-I_C$ = 100 mA	10 A 3[4]	sim.	8
40 to 250	150	2	< 100	30	$-V_{CEsat}$ < 0,6 at $-I_C$ = 500 mA; B = 10	12 A 3[5]	SOT-32	7
40 to 160	150	2	< 100	30	$-V_{CEsat}$ < 0,6 V at $-I_C$ = 500 mA; B = 10	12 A 3[5]	SOT-32	7
40 to 160	150	2	< 100	30	$-V_{CEsat}$ < 0,6 V at $-I_C$ = 500 mA	12 A 3[5]	SOT-32	7
> 40	150	2	< 100	45	$-V_{CEsat}$ < 0,6 at I_C = 1 A $-I_B$ = 100 mA	12 A 3[5]	SOT-32	7
> 40	150	2	< 100	60	$-V_{CEsat}$ < 0,6 at I_C = 1 A $-I_B$ = 100 mA	12 A 3[5]	SOT-32	7
> 40	150	2	< 100	100	$-V_{CEsat}$ < 0,6 at I_C = 1 A $-I_B$ = 100 mA	12 A 3[5]	SOT-32	7
85 to 475	500	1	< 100	22	$-V_{CEsat}$ < 0.8 V at $-I_C$ = 2 A for the characteristic, I_B = constant, through the point, $-I_C$ = 2.2 A; $-U_{CE}$ = 1 V.	12 A 3[5]	SOT-32	7
85 to 475	500	1	< 100	32		12 A 3[5]	SOT-32	7
85 to 475	500	1	< 100	45		12 A 3[5]	SOT-32	7
> 25	500	1	< 100	60	V_{CEsat} < 0,8 V at I_C = 2 A; I_B = 0,2 A	12 A 3[5]	SOT-32	7
> 15	500	1	< 100	80		12 A 3[5]	SOT-32	7
> 40	500	2	< 100	45	V_{CEsat} < 0,8 V at I_C = 2 A, I_B = 0,2 A		TO 220 AB (TOP-66)	6
> 40	500	2	< 100	60				6
> 40	500	2	< 100	80				6
> 750	1,5	3	< 0,2	45	V_{CEsat} < 2,5 V at I_C = 1,5 A; I_B = 30 mA	12 A 3[5]	SOT-32	7
> 750	1,5	3	< 0,2	60	V_{CEsat} < 2,5 V at I_C = 1,5 A; I_B = 30 mA	12 A 3[5]	SOT-32	7
> 750	1,5	3	< 0,2	80	V_{CEsat} < 2,5 V at I_C = 1,5 A; I_B = 30 mA	12 A 3[5]	SOT-32	7
> 750	1,5	3	< 0,2	45	V_{CEsat} < 2,5 V at I_C = 1,5 A; I_B = 30 mA	12 A 3[5]	SOT-32	7
> 750	1,5	3	< 0,2	60	V_{CEsat} < 2,5 V at I_C = 1,5 A; I_B = 30 mA	12 A 3[5]	SOT-32	7
> 750	1,5	3	< 0,2	80	V_{CEsat} < 2,5 V at I_C = 1,5 A; I_B = 30 mA	12 A 3[5]	SOT-32	7

[3]) DIN 41 873 [4]) DIN 41 868 (previous TO-92z) [5]) DIN 41 869 page 4 [6]) DIN 41 869 page 3

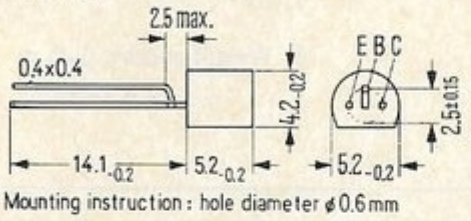
2. Spectrum AF-Transistors

Type classified

Epitaxial Silicon-Planar-Transistors for AF-Applications NPN/PNP

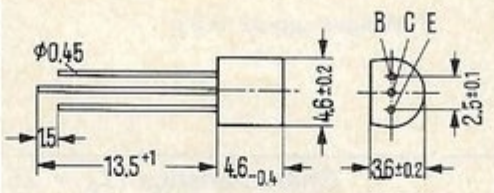
Plastic Case

Dimensions in mm

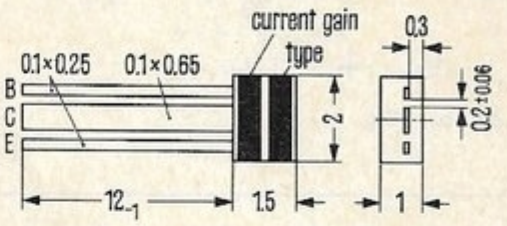


Mounting instruction: hole diameter ⌀0.6 mm

similar SOT-30



TO-92

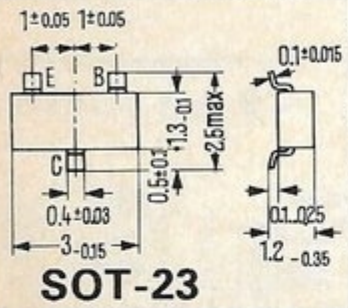


U-32

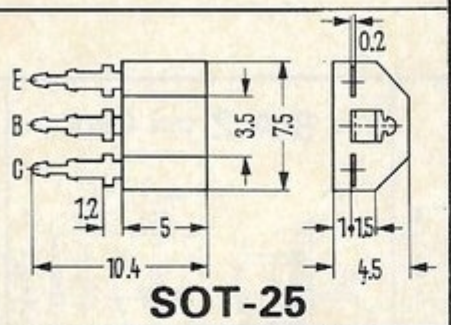
V_{CEO} ▼	$I_C =$ 50 mA	100 mA	800 mA	50 mA	100 mA	75 mA
90 V						
80 V						
60 V						
50 V		BC 182 BC 212				
45 V		BC 237 **BC 307** BC 414 **BC 416** BCX 59 **BCX 79**	**BC 327** BC 337 BCX 74 **BCX 76**		BC 167 **BC 257**	
40 V						
35 V		**BC 415**				
32 V		BCX 58 **BCX 78**	BCX 73 **BCX 75**			
30 V		BC 413				BC 123 **BC 203**
25 V		**BC 308**	**BC 328** BC 338		**BC 258**	
20 V	BC 239 [1]) **BC 309 [1])**	BC 238		BC 169 [1]) **BC 259 [1])**	BC 168	BC 122 **BC 202**
5 V						BC 121 **BC 201**

[1]) Low noise [2]) Extreme low noise

Plastic Case

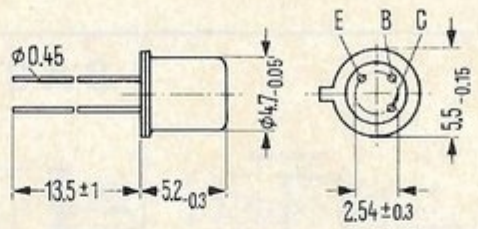


SOT-23

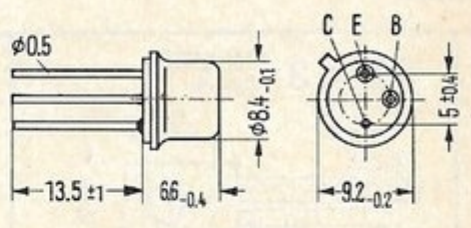


SOT-25

Metal Case



TO-18



TO-39

SOT-23		SOT-25		TO-18			TO-39	
200 mA	800 mA	50 mA	100 mA	50 mA	100 mA	200 mA	1000 mA	3000 mA
				BC 110			BSX 47	
				2 N 2483 2 N 929 A 2 N 930 A	BCY 65 E **BCY 77**		BC 141 **BC 161** **BSV 16** BSX 46	BSX 63
BCX 70 **BCX 71**	BCW 66 BCW 68		BC 147 **BC 157**	BCY 66 [2]) **BCY 67 [2])**	BC 107 **BC 177**	BCY 59 **BCY 79**		
							BC 140 **BC 160** **BSV 15** BSX 45	BSX 62
BCW 60 **BCW 61**	BCW 65 BCW 67					BCY 58 **BCY 78**		
			BC 158		**BC 178**			
		BC 149 [1]) **BC 159 [1])**	BC 148	BC 109 [1]) **BC 179 [1])**	BC 108			

Power Transistors, Power Darlingtons
NPN/PNP

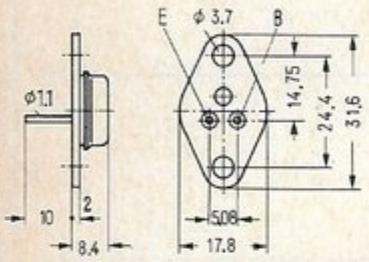
V_{CEO} ▼ / I_C (AV) ▶	12 A 3 DIN 41869 page 4 — SOT-32			TO-220 AB (TOP 66)		8 A 3 DIN 41878 — TO-8		~9 A 2 DIN 41875 — SOT-9			~9 A 3 DIN 41875 — ≈ SOT-9 [2]		
	1,5 A	2 A	4 A	4 A	10 A	8 A	10 A	2 A	3 A	3,5 A	4 A	5 A	8 A
350 V													
300 V													
250 V													
200 V													
160 V													
150 V													
140 V													
125 V								BDX 25				BDX 30	
120 V													
80 V	BD 139 BD 140	BD 237 BD 238	BD 679 [1] BD 680 [1] BD 441 BD 442	BD 537 BD 538	BD 647 [1] BD 648 [1]							BDX 29	
60 V	BD 137 BD 138	BD 235 BD 236	BD 677 [1] BD 678 [1] BD 439 BD 440	BD 535 BD 536	BD 645 [1] BD 646 [1]				BDY 13			BDX 28	BDY 89 [1]
55 V											BUY 46 ■		
45 V	BD 135 BD 136	BD 233 BD 234	BD 437 BD 438 BD 675 [1] BD 676 [1]	BD 533 BD 534	BD 643 [1] BD 644 [1]	AUY 18							
40 V									BD 109 BDY 12		BUY 43 ■	BDX 27	BDY 88 [1]
32 V			BD 435 BD 436										
30 V							AD 136						
26 V										AD 148 ■			
24 V													
20 V			BD 433 BD 434						AD 161 AD 162				BDY 87 [1]

[1]) Darlington Transistors

[2]) Case only for Darlington Transistors BDY 87, BDY 88, BDY 89

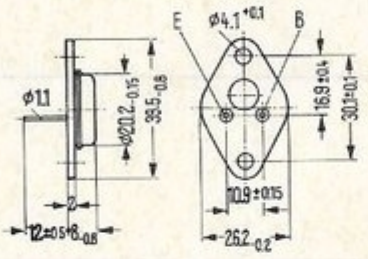
■ Not for new developments

~9 A 2 DIN 41875



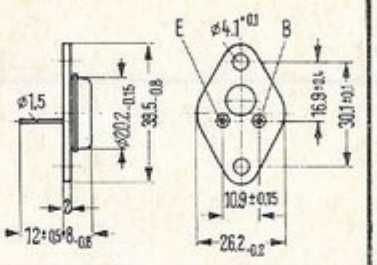
TO-66

3 A 2 DIN 41872



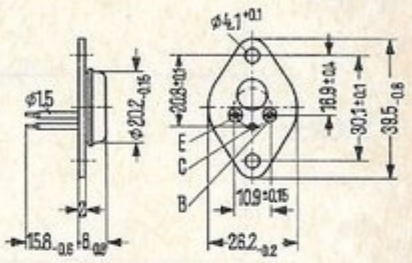
TO-3

3 A 2 DIN 41872



TO-3

3 C 3 DIN 41872



≈ TO-41

3 A	4 A	3 A	3,5 A	5 A	6 A	10 A	15 A	12 A	15 A	8 A	10 A	15 A
				BUY 79				BUY 76				
		BU 126		BUY 78	BU 111 BU 126			BUY 75				
				BUY 77	BUY 35			BUY 74				
						BUY 72			BUY 73			
						BUY 56			BUY 58			
					BU 312	BU 110						
2 N 3441						2 N 3442						
					BU 311	BUY 55			BUY 57			
				2 N 4347								
		AD 163 AUY 34			BU 310							
		AD 132 AUY 20					BD 130 BDY 39 2 N 3055			AUY 22		
	2 N 3054											
		AD 131 AUY 19									AUY 21	
												AD 133 AUY 29
		AD 130	AD 149 AD 150 ADY 27									

3. Spectrum RF-Transistors and Capacitance Diodes

Application classified

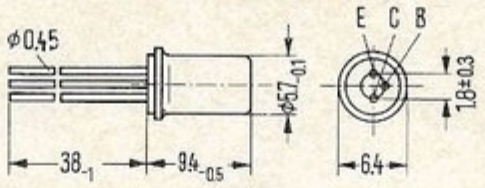
Germanium-Silicon-Transistors and Capacitance Diodes for RF-Application NPN/PNP

Application		Tuner			IF		
		Input	Mixer	Oscillator	controlled	IF	Output
	4 GHz						
	2,5 GHz						
	1 GHz						
Television	UHF	BB 105 A BB 105 B AF 139 AF 239 AF 239 S AF 279 AF 379 [4]	BB 105 A BB 105 B AF 280	BB 105 A BB 105 B AF 139 [1] AF 240 [1] AF 280 [1]	AF 200 U BF 198	AF 201 U BF 199	BF 199
	VHF	BB 105 G BB 109 G BA 138 AF 109 R AF 139 AF 239 AF 239 S AF 279 AF 379 [4]	BB 105 G BB 109 G BA 138 AF 106 AF 306	BB 105 G BB 109 G BA 138 AF 106 AF 306			
Radio	FM	BB 103 BB 104 AF 106 BF 195 BF 255 BF 255 BF 324 BF 324 BF 324	BB 103 BB 104 AF 106 BF 195 BF 255 BF 241 AF 106 BF 451 AF 306	BB 103 BB 104 AF 106 BF 195 BF 255 BF 241 AF 106 BF 451 AF 306	AF 200 U BF 194 BF 254 BF 240 BF 450	AF 201 U BF 195 BF 255 BF 241 BF 451	AF 201 U BF 195 BF 255 BF 241 BF 451
	AM	BB 113 [2] AF 306 AF 106 BF 194 BF 195 BF 240 BF 255 BF 450	BB 113 [2] AF 306 AF 106 BF 194 BF 195 BF 241 BF 254 BF 255 BF 451	BB 113 [2] AF 306 AF 106 BF 194 BF 195 BF 241 BF 254 BF 255 BF 451			

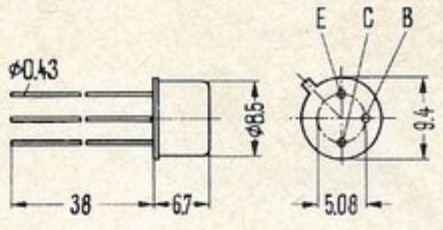
[1]) Selfoscillating Mixer [2]) One system of triple diode resp.
[4]) non controlled input stage, attenuated by a PIN-diode regulation device with 3 BA 379

Video			RF-Stages for professional Applications			
black/white	Colour Difference	RGB	Input stage	Intermediate and IF -channel amplf. etc.	Output stage	Oscillator
						BFR 14 BFR 34
			BFR 14 BFR 34 BFR 35			BXY 21 BXY 22 BXY 23 BXY 24
			BFR 34 BFR 35 BFR 15 BFW 99 BFW 99 S	BFS 55 BFW 30 BFW 99 BFW 99 S	BFW 16 A BFW 30 BFT 12	BBY 24 BBY 25 BBY 26 BBY 27
			BFW 92 BFX 89 BFY 90 BFX 62 BFX 59 BFX 59 F AFY 16 AFY 42	BFW 30 BFW 92 BFX 89 BFY 90 BFX 59 BFX 59 F AFY 37	BFW 16 A BFX 59 BFX 59 F AFY 37	Transistors see under input-, intermediate-, and output stage
BF 457	BF 457 BF 458 BF 459	BF 457 BF 458 BF 459				
			AFY 12 AFY 16 BFX 59 BFX 59 F BFX 60 BFX 62 BFX 89	AFY 18 BFX 59 BFX 59 F BFX 60	BFW 16 A BFX 55	

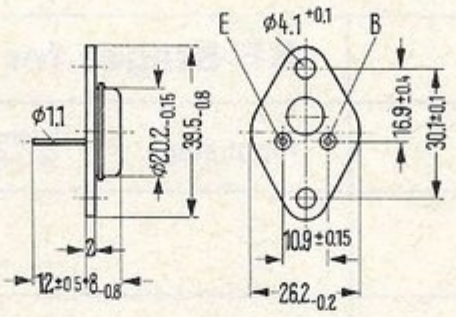
4. INDUSTRIAL-Types



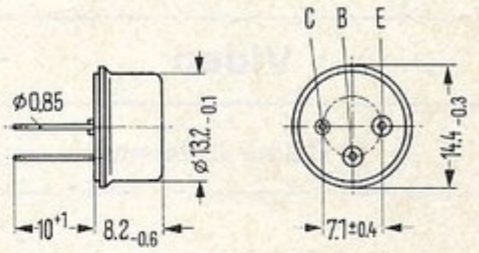
1 Weight approx. 1 g



2 Weight approx. 1.4 g



5 Weight approx. 16.5 g



6 Weight approx. 4.8 g

PNP-Germanium-AF-Transistors

Type	Application	alloyed = L, diffused-alloyed = DL, epitaxial = E, Mesa = Me	Maximum ratings $-V_{CBO}$ V	$-V_{CEO}$ [$-V_{CER}$] V	$-V_{EBO}$ V	$-I_C$ mA [A]	T_j °C	P_{tot} mW [W]	$R_{th\,JA}$ [$R_{th\,Jcase}$] K/W	f_T MHz
ACY 23[1]	AF input and driver stages	DL	32	30	16	200	90	900	≦300	1,5(>0,5)
ACY 32[1]	Low-noise AF input stages	L	32	30	16	200	90	900	≦300	1,5(>0,5)
ACY 33[1][2]	Medium-power AF output stages	L	32	[32]	10	1000	90	1100	≦300	1,5
ASY 26	Switching	DL	30	15	20	300	85	150	400	8 (> 4)
ASY 27	Switching	DL	25	15	20	300	85	150	400	14 (> 6)
ASY 48[1]	Switching	L	64	45	16	300	90	900	300	1,2
ASY 70[1]	Switching	L	32	30	16	300	90	900	300	1,5

PNP-Germanium-Mesa-RF-Transistors

AFY 12	RF amplifiers up to 260 MHz	Me	25	18	0,5	10	90	112	≦750	230
AFY 16	RF amplifiers up to 900 MHz	Me	30	25	0,5	10	90	112	≦750	550
AFY 18[1]	Antenna amplifier up to 250 MHz	E, Me	30	15	0,7	100	90	560	≦250	600
■ **AFY 37**	UHF antenna amplifiers	E, Me	32	–	0,3	20	90	112	≦750	600
AFY 42	Pre-, Mix.- and osc. stag. up to 900 MHz	Me	30	25	0,3	10	90	112	≦750	700

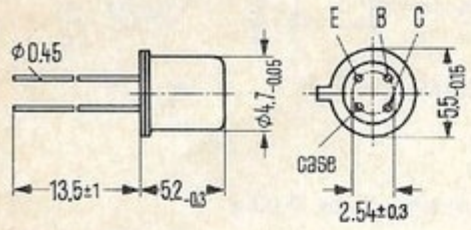
PNP-Germanium-Power Transistors

■ **ADY 27**[1][2]	AF power output stages up to 20 W	L	32	30	10	[3,5]	100	[27,5]	[≦2]	0,45
AUY 18[1]	Switching at high voltages	L	64	45	20	[8]	100	[11]	[≦5]	0,3
AUY 19[1]	AF-power switch	L	64	45	20	[3]	90	[30]	[≦1,5]	0,35
AUY 20[1]	AF-power switch	L	80	60	20	[3]	90	[30]	[≦1,5]	0,35
AUY 21[1]	AF-power-switch	L	65	45	20	[10]	100	[36]	[≦1,5]	0,30
AUY 22[1]	AF-power switch	L	80	60	20	[8]	100	[36]	[≦1,5]	0,30
AUY 29[1][2]	AF-power switch	L	50	32	10	[15]	100	[36]	[≦1,5]	0,30
AUY 34[1]	AF-power switch for high voltages	L	100	80	20	[3]	90	[30]	[≦1,5]	0,35
■ **TF 78/30**[1][2]	Medium-power AF output stages	L	32	24	10	600	90	[3]	≦120	0,7
■ **TF 78/60**[1]	and medium power switching	L	64	45	16	600	90	[3]	≦120	0,7

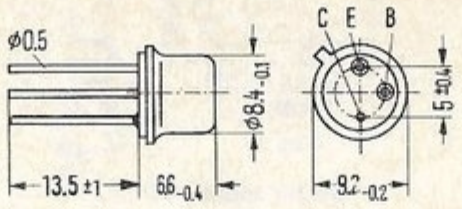
PNPN-Thyrister-Tetrods

Type	Application	Planar = Pl	Maximum ratings $-V_{DD}$ V	V_{GR} V	I_F mA	I_{GK} mA	T_j °C	P_{tot} W	$R_{th\,JA}$ K/W
BRY 20	Medium-speed switch	Pl	40	5	500	100	−55 bis	1,3	≦ 220
BRY 21	Medium-speed switch	PL	80	5	500	100	+125	1,3	≦ 220

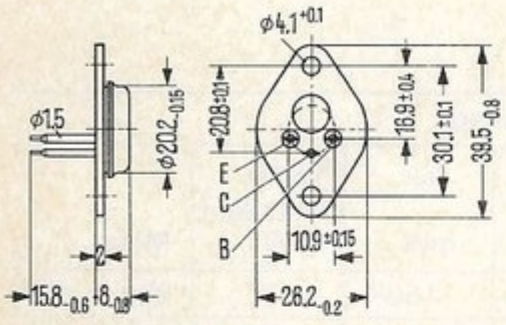
[1]) Available in various current-gain groups [2]) Available in matched pairs ■ Not for new developments



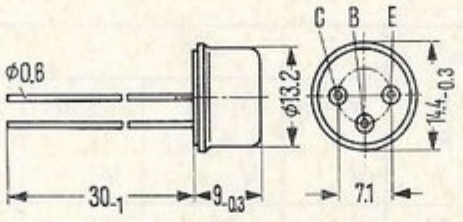
3 Weight approx. 0.4 g



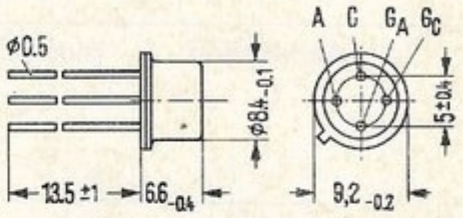
4 Weight approx. 1.6 g



7 Weight approx. 17 g



8 Weight approx. 5.5 g



9 Weight approx. 1 g

Characteristics (T_A = 25 °C)

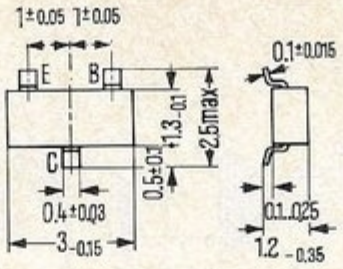
B [β] I_C/I_B	at $-I_C$ mA[A]	$-V_{CE}$ [$-V_{CB}$] V	$-I_{CBO}$ at $-I_{CEV}$* µA [mA]	$-V_{CBO}$* $-V_{CEV}$* V	Remarks	Case designation DIN 41871	Case designation JEDEC	Outline
[50 to 150]	1	5	3 (< 10)	10	$-V_{CE\,sat}$ = 0,11 (< 0,18) V bei I_C = 100 mA; B = 20	1 A 3	TO- 1 sim.	1
[50 to 150]	1	5	3 (< 10)	10	F = 3 (< 6) dB at $-I_C$ = 0,5 mA; $-V_{CE}$ = 5 V;	1 A 3	TO- 1 sim.	1
75 to 350	300	[0]	< 10	10	$-V_{CE\,sat}$ = 0,16 (< 0,5) V at $-I_C$ = 1 A; B = 20	1 A 3	TO- 1 sim.	1
30 to 80	20	[0]	< 3	5	$\tau \leq$ 2,2 µs at $-i_{CM}$ = 50 mA; $-V_{CE}$ = 0,75 V	5 A 3[4])	TO- 5	2
50 to 150	20	[0]	< 3	5	$\tau \leq$ 2,2 µs at $-i_{CM}$ = 50 mA; $-V_{CE}$ = 0,75 V	5 A 3[4])	TO- 5	2
30 to 150	100	0,5	6 (< 18)	64	$-V_{CE\,sat}$ = 0,15 (< 0,25) V at $-I_C$ = 300 mA; B = 20	1 A 3	TO- 1 sim.	1
30 to 150	100	0,5	5 (< 18)	32	$-V_{CE\,sat}$ = 0,15 (< 0,25) V at $-I_C$ = 300 mA; B = 20	1 A 3	TO- 1 sim.	1
25 to 120	1	12	0,4 (< 3)	12	F = 5 (< 7) dB at f = 200 MHz; R_G = 60 Ω	18 A 4[5])	TO-72	3
60 (> 10)	1,5	12	0,4 (< 3)	20	F = 7 (< 8) dB at f = 800 MHz; R_G = 60 Ω	18 A 4[5])	TO-72	3
[40 to 600]	10	10	0,2 (< 10)	15	F = 4 dB at f = 70 MHz; R_G = 60 Ω	5 C 3[4])	TO-39	4
40 (> 10)	2	12	0,4 (< 10)	20	V_{pb} = 12 (> 10) dB at f = 800 MHz; $-I_C$ = 4 mA	18 A 4[5])	TO-72	3
50 (> 10)	2	10	6 (< 30)	20	F = 5 dB at f = 800 MHz; R_G = 60 Ω	18 A 4[5])	TO-72	3
30 to 100	[1]	1	[0,15 (< 0,5)]*	32*	$-V_{CE\,sat}$ = 0,3 (< 0,6) V at $-I_C$ = 3 A; B = 10	3 A 2[3])	TO- 3	5
50 to 100	[5]	0,5	[0,15 (< 1)]*	64*	$-V_{CE\,sat}$ = 0,18 (< 0,35) V at $-I_C$ = 8 A; B = 10	8 A 3[6])	TO- 8	6
20 to 100	[1]	1	[0,15 (< 0,5)]*	64*	$-V_{CE\,sat}$ = 0,5 (< 1) V at $-I_C$ = 3 A; B = 10	3 A 2[3])	TO- 3	5
20 to 100	[1]	1	[0,15 (< 0,5)]*	80*	$-V_{CE\,sat}$ = 0,5 (< 1) V at $-I_C$ = 3 A; B = 10	3 A 2[3])	TO- 3	5
12,5 to 60	[5]	0,5	[< 1]*	65*	$-V_{CE\,sat}$ = 0,22 (< 0,4) V at $-I_C$ = 10 A; B = 10	3 C 3[3])	TO-41 sim.	7
12,5 to 60	[5]	0,5	[< 1]*	80*	$-V_{CE\,sat}$ = 0,18 (< 0,35) V at $-I_C$ = 8 A; B = 10	3 C 3[3])	TO-41 sim.	7
20 to 100	[5]	0,5	[< 1]*	50*	$-V_{CE\,sat}$ = 0,3 (< 0,5) V at $-I_C$ = 15 A; B = 10	3 C 3[3])	TO-41 sim.	7
12,5 to 60	[1]	1	[0,15 (< 1)]*	100*	$-V_{CE\,sat}$ = 0,5 (< 1,0) V at $-I_C$ = 3 A; B = 10	3 A 2[3])	TO- 3	5
30 to 150	50	0,7	10 (< 30)	32	$-V_{CE\,sat}$ = 0,26 (< 0,5) V at $-I_C$ = 0,5 A; U_{CE} = 0,7 V	8 A 3[6])	TO- 8 sim.	8
30 to 150	50	0,7	10 (< 30)	64	$-V_{CE\,sat}$ = 0,26 (< 0,5) V at $-I_C$ = 0,5 A; U_{CE} = 0,7 V	8 A 3[6])	TO- 8 sim.	8

Characteristics (T_A = 25 °C)

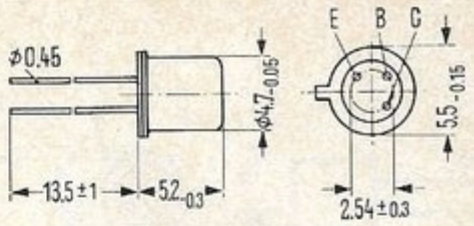
V_F at I_F V	mA	I_{GKT} µA	I_{GKQ} mA	V_{GKT} V	at V_{Batt} V	R_L kΩ	I_{GA} mA	t_{gt} ns	t_{gq} µs	t_q µs	at V_{AA} V	R_L kΩ	Case designation DIN 41873	Case designation JEDEC	Outline
1 < 1,5	100	50 < 100	10 < 15	0,4 bis	15	0,5	0	100	5	7	15	1	5 C 4	TO-12	9
< 1,3	100	50 < 100	10 < 15	0,8	15	0,5	0	(< 300)			15	1	5 C 4	TO-12	9

[3]) DIN 41872 [4]) DIN 41873 [5]) DIN 41876 [6]) DIN 41878

Industrial Types



1 Weight approx. 0.02 g



2 Weight approx. 0.03 g

NPN-Silicon-AF-Transistors

Type	Application [compl. matched type resp.] epitaxial = E planar = PI		Maximum ratings							
			V_{CBO} V	V_{CEO} [V_{CES}] V	V_{EBO} V	I_C mA	T_j °C	P_{tot} mW	$R_{th\,JA}$ [$R_{th\,Jcase}$] K/W	f_T MHz
BCW 60 A[1])	AF-input and switching appl.	E, PI	–	32	5	200	150	150[2])	[3])	250 (>125)
BCW 65 E[7])	AF-driver and switching appl.	E, PI	–	32	5	800	150	350	[9])	> 100
BCW 66 E[7])		E, PI	–	45	5	800	150	350	[9])	> 100
▼ BCW 87	AF-trans. in dense glass/cer, case	E, PI	–	45	7	100	200	167	≤ 775	> 125
▼ BCX 58[1])	AF-input and driver stages and switching applications	E, PI	–	32	7	100	150	450	≤ 280	250 (>125)
▼ BCX 59[1])		E, PI	–	45	7	100	150	450	≤ 280	250 (>125)
BCX 70 A[1])	AF-input and switching appl.	E, PI	–	45	5	100	150	150[2])	[3])	250 (>125)
▼ BCX 73[1])	AF-stages and switching appl.	E, PI	–	[60]	5	800	150	625	≤ 200	> 100
▼ BCX 74[1])		E, PI	–	[75]	5	800	150	625	≤ 200	> 100
BCY 58[1])	AF-input and driver [BCY 78]	E, PI	–	32	7	200	200	1000	[≤ 150]	250 (>125)
BCY 59[1])	[BCY 79]	E, PI	–	45	7	200	200	1000	[≤ 150]	250 (>125)
BCY 65 E[1])	AF-input and driver with high supply voltages	E, PI	–	60	7	100	200	1000	[≤ 150]	250 (>125)
BCY 66	AF-input (low noise)	E, PI	–	45	7	50	200	1000	[≤ 150]	250 (>125)
BSX 45[1])	AF-amplifier and switching applications	E, PI	–	40	7	1000	200	5000	≤ 200	> 50
BSX 46[1])		E, PI	–	60	7	1000	200	5000	≤ 200	> 50
BSX 47[1])		E, PI	–	80	7	1000	200	5000	≤ 200	> 50
BSX 62[1])	AF-output and switching appl.	E, PI	–	[60]	5	3000	200	7700	[≤ 35]	70 (> 30)
BSX 63[1])		E, PI	–	[80]	5	3000	200	7700	[≤ 35]	70 (> 30)

PNP-Silicon-AF-Transistors

BCW 61B[1])	AF-input and switching applic.	E, PI	–	−32	−5	− 200	150	150[2])	[3])	180
BCW 67 D[8])	AF-driver and switching applic.	E, PI	–	−32	−5	− 800	150	350	[9])	> 100
BCW 68 D[8])		E, PI	–	−45	−5	− 800	150	350	[9])	> 100
▼ BCW 88	AF-trans. in dense glass/cer. case	E, PI	–	−45	−5	− 100	200	167	≤ 775	> 100
BCX 71B[1])	AF-input and switching appl.	E, PI	–	−45	−5	− 100	150	150[2])	[3])	180
▼ BCX 75[1])	AF-stages and switching appl.	E, PI	–	−[60]	−5	− 800	150	625	≤ 200	> 100
▼ BCX 76[1])		E, PI	–	−[75]	−5	− 800	150	625	≤ 200	> 100
▼ BCX 78[1])	AF input and driver stages and switching appl.	E, PI	–	−32	−5	− 100	150	450	≤ 280	200
▼ BCX 79[1])		E, PI	–	−45	−5	− 100	150	450	≤ 280	200
BCY 67	Low-noise AF input stages	E, PI	–	−45	−5	− 50	200	770	[≤ 200]	180
BCY 77[1])	AF input and driver stages	E, PI	–	−60	−5	− 100	200	1000	≤ 450	180
BCY 78[1])		E, PI	–	−32	−5	− 200	200	770	[≤ 200]	180
BCY 79[1])		E, PI	–	−45	−5	− 200	200	770	[≤ 200]	180
BSV 15[1])	AF amplifiers and switching appl.	E, PI	–	−40	−5	−1000	175	3200	≤ 200	> 50
BSV 16[1])		E, PI	–	−60	−5	−1000	175	3200	≤ 200	> 50
BSV 17[1])		E, PI	–	−80	−5	−1000	200	5000	≤ 200	> 50

▼ New typ see ordering code index

[1]) Available in various current gain groups (for BCW 60 and BLX 70 is the first letter "A", resp. for BCW 61 and BCX 71 the letter "B" valid for the shortened type designations, the second letter close by indicates the gain group)

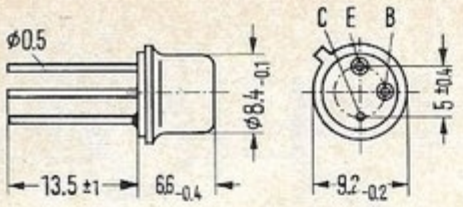
[2]) The permissible total power dissipation $P_{tot} = \frac{T_{j\,max} - T_{amb}}{R_{th\,jamb}}$ is determined by the thermal resistance, which depends on the mounting conditions.

[3]) $R_{th\,JA}$: for glass substrate (7×7×1 mm) ≦ 0.7 K/mW, for ceramic (20×12×1 mm) ≦ 0.45 K/mW, for glass fiber (30×12×1.5 mm) ≦ 0.45 K/mW

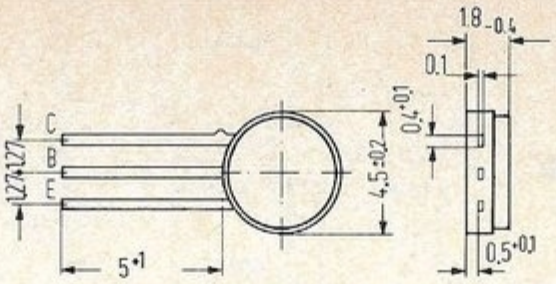
[7]) For BCW 65 and BCW 66 is the first letter "E" valid for the shortened type designation, the second letter close by "A", "B", "C" for BCW 65 and "F", "G", "H" for BCW 66 indicates the respective gain group of the transistor.

[8]) For BCW 67 and BCW 68 is the first letter "D" valid for the shortened type designation, the second letter close by "A", "B", "C" for BCW 67 and "F", "G", "H" for BCW 68 indicates the respective gain group of the transistor.

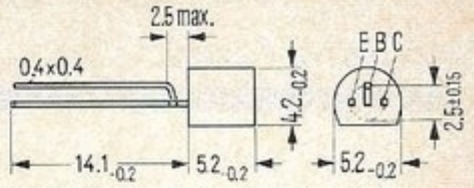
[9]) $R_{th\,JA}$: for glass fiber (20×12×1.5 mm) or for ceramic (20×12×1 mm) ≦ 0.358 K/mW



3 Weight approx. 1.6 g



4 Weight approx. 0.07 g



Mounting instruction: hole diameter ø 0.6 mm

5 Weight approx. 0.25 g

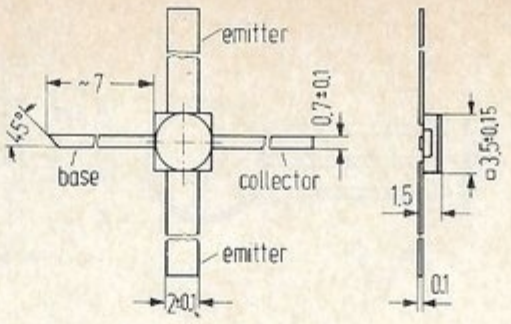
Characteristics (T_A = 25 °C)

B [β] I_C/I_B	at I_C mA	U_{CE} V	I_{CBO} I_{CES}* µA [nA]	at V_{CBO} V_{CES}* V	Remarks	Case designation DIN 41876	JEDEC	Outline
120 to 630	2	5	< 20*	32*	F = 2 (< 6) dB at I_C = 0,2 mA; V_{CE} = 5 V; f = 1 kHz	23 A 3[4]	SOT-23	1
120 to 630	100	1	[< 20]*	32*	F = 2 (< 10) dB at I_C = 0,2 mA; V_{CE} = 5 V; f = 1 kHz	23 A 3[4]	SOT-23	1
120 to 630	100	1	[< 20]*	45*	F = 2 (< 10) dB at I_C = 0,2 mA; V_{CE} = 5 V; f = 1 kHz	23 A 3[4]	SOT-23	1
250 to 500	2	5	[< 10]	45	F = 4,5 dB at I_C = 0,2 mA; V_{CE} = 5 V; R_G = 2 kΩ	glass/cer. flatpack		4
120 to 630	2	5	[< 0,2]*	32*	F = 2 (< 6) dB at I_C = 0,2 mA; V_{CE} = 5 V; f = 1 kHz	10 A 3[6]	~SOT-30	5
120 to 630	2	5	[< 0,2]*	45*	F = 2 (< 6) dB at I_C = 0,2 mA; V_{CE} = 5 V; f = 1 kHz	10 A 3[6]	~SOT-30	5
120 to 630	2	5	[< 20]	45	F = 2 (< 6) dB at I_C = 0,2 mA; V_{CE} = 5 V; f = 1 kHz	23 A 3[4]	SOT-23	1
120 to 630	100	1	[< 20]*	32*	F = 2 (< 10) dB at I_C = 0,2 mA; V_{CE} = 5 V; f = 1 kHz	10 A 3[6]	~SOT-30	5
120 to 630	100	1	[< 20]*	45*	F = 2 (< 10) dB at I_C = 0,2 mA; V_{CE} = 5 V; f = 1 kHz	10 A 3[6]	~SOT-30	5
80 to 1000	10	1	[0,2 (< 10)]*	32*	V_{CEsat} = 0,12 (0,05 to 0,35) V at I_C = 10 mA; B = 40	18 A 3	TO-18	2
80 to 1000	10	1	[0,2 (< 10)]*	45*	V_{CEsat} = 0,12 (0,05 to 0,25) V at I_C = 10 mA; B = 40	18 A 3	TO-18	2
80 to 1000	50	1	[0,2 (< 10)]*	60*	V_{CEsat} = 0,3 (< 0,7) V at I_C = 50 mA; B = 40	18 A 3	TO-18	2
120 to 1000	10	1	[0,2 (< 10)]*	45*	F = 1,2 (< 2) dB at I_C = 0,2 mA; U_{CE} = 5 V; f = 1 kHz	18 A 3	TO-18	2
40 to 250	100	1	[1 (< 30)]*	60*	F = 3,5 dB at I_C = 100 µA; U_{CE} = 10 V; f = 1 kHz	5 C 3[5]	TO-39	3
40 to 250	100	1	[1 (< 30)]*	60*	F = 3,5 dB at I_C = 100 µA; U_{CE} = 10 V; f = 1 kHz	5 C 3[5]	TO-39	3
40 to 160	100	1	[< 30*]	80*	V_{CEsat} = 0,5 (< 0,9) V at I_C = 500 mA; B = 20	5 C 3[5]	TO-39	3
40 to 250	1000	1	[10 (< 100)]*	40*	C_{CBO} = 35 (< 70) pF at U_{CB} = 10 V	5 C 3[5]	TO-39	3
40 to 160	1000	1	[10 (< 100)]*	60*	C_{CBO} = 35 (< 70) pF at U_{CB} = 10 V	5 C 3[5]	TO-39	3
120 to 630	−2	−5	− < 20*	−32*	F = 2 (< 6) dB at I_C = 0,2 mA; V_{CE} = 5 V; f = 1 kHz	23 A 3[4]	SOT-23	1
63 to 400	−100	−1	[< −20]*	−32	F = 2 (< 10) dB at $-I_C$ = 0,2 mA; $-V_{CE}$ = 5 V; f = 1 kHz	23 A 3[4]	SOT-23	1
63 to 400	−100	−1	[< −20]*	−45	F = 2 (< 10) dB at $-I_C$ = 0,2 mA; $-V_{CE}$ = 5 V; f = 1 kHz	23 A 3[4]	SOT-23	1
250 to 500	−2	−5	[< 20]	35	F = < 6 dB at $-I_C$ = 0,2 mA; $-V_{CE}$ = 5 V; R_G = 2 kΩ	glass/cer. flatpack		4
120 to 1000	− 10	−1	[−2 (< 20)]*	−35*	$-V_{CEsat}$ = 0,12 (0,06 to 0,25) V at I_C = 10 mA; B = 40	23 A 3[4]	SOT-23	1
120 to 630	−100	−1	[< −20]*	−32*	F = 2 (< 10) dB at $-I_C$ = 0,2 mA; $-V_{CE}$ = 5 V; R_G = 1 kΩ	10 A 3[6]	~SOT-30	5
120 to 630	−100	−1	[< −20]*	−45*	F = 2 (< 10) dB at $-I_C$ = 0,2 mA; $-V_{CE}$ = 5 V; R_G = 1 kΩ	10 A 3[6]	~SOT-30	5
120 to 630	−2	−5	[−0,2 (< 10)]*	−32*	F = 2 (< 6) dB at $-I_C$ = 0,2 mA; $-V_{CE}$ = 5 V; R_G = 2 kΩ	10 A 3[6]	~SOT-30	5
120 to 630	−2	−5	[−0,2 (< 10)]*	−45*	F = 2 (< 6) dB at $-I_C$ = 0,2 mA; $-V_{CE}$ = 5 V; R_G = 2 kΩ	10 A 3[6]	~SOT-30	5
120 to 630	−2	−5	[< −20]	−45	F = 1,2 (< 2) dB at $-I_C$ = 0,2 mA; $-V_{CE}$ = 5 V; f = 1 kHz	18 A 3	TO-18	2
120 to 630	−2	−5	[−2 (< 20)]*	−50*	V_{CEsat} = 0,12 (0,06 to 0,25) V at I_C = 10 mA; I_B = 0,25 mA	18 A 3	TO-18	2
80 to 630	−10	−1	[−2 (< 20)]*	−25*	V_{CEsat} = 0,12 (0,06 to 0,25) V at I_C = 10 mA; I_B = 0,25 mA	18 A 3	TO-18	2
80 to 400	−10	−1	[−2 (< 20)]*	−35*	V_{CEsat} = 0,12 (0,06 to 0,25) V at I_C = 10 mA; I_B = 0,25 mA	18 A 3	TO-18	2
40 to 250	−100	−1	[< 100]*	−40*	$-V_{CEsat}$ = ≦ 0,25 to 1 V at $-I_C$ = 500 mA; B = 20	5 C 3[5]	TO-39	3
40 to 250	−100	−1	[< 100]*	−60*	$-V_{CEsat}$ = ≦ 0,25 to 1 V at $-I_C$ = 500 mA; B = 20	5 C 3[5]	TO-39	3
40 to 160	−100	−1	[< 100]*	−80*	C_{CBO} = 15 pF at $-V_{CBO}$ = 10 V; f = 1 MHz	5 C 3[5]	TO-39	3

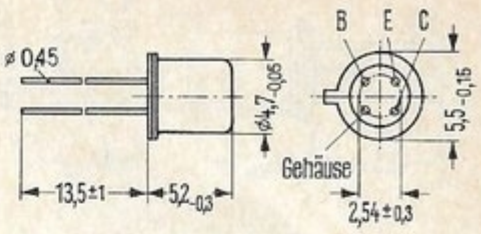
[4]) DIN 41869
[5]) DIN 41873
[6]) DIN 41868

Transistors

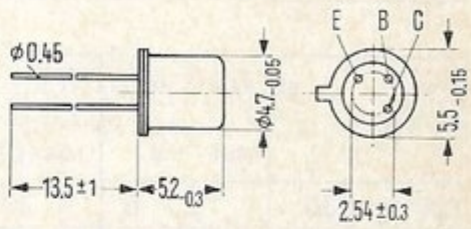
Industrial Types



1 Weight approx. 0.3 g



2 Weight approx. 0.4 g



6 Weight approx. 0.3 g

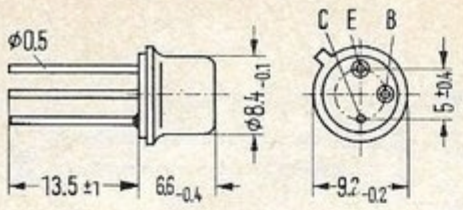
Silicon-RF-Transistors

Type	Application	epitaxial = E, Planar = PI, single diffused = ED	Maximum Ratings							
			V_{CBO}	V_{CEO} [U_{CES}]	V_{EBO}	I_C	T_j	P_{tot}	$R_{th\,JA}$ [$R_{th\,Jcase}$]	f_T
			V	V	V	mA	°C	mW	K/W	MHz
▼ **BFR 14A**	Low noise RF-amplifier and oscillators up to 5 GHz	E, PI	20	12	3,5	30	175	250	≤ 250	5000
BFR 15	RF-amplifiers and oscillators up to the GHz-range	E, PI	–	12	3,5	30	150	200	≤ 700	3300
▼ **BFR 28**	RF-amplifier		30	20	3	50	200	200	≤ 775	> 500
BFR 34	RF-amplifier and oscillators up to the GHz-range	E, PI	–	12	3,5	30	125	200	≤ 650	3300
BFR 35	RF-amplifier a. oscillators for hybrid circuits upto GHz range	E, PI	–	12	3,5	30	125	200	≤ 800	3300
BFS 17	RF-amplifier and oscillators for hybrid circuits up to	E, PI	25	15	2,5	25	125	110	≤ 900	1300
BFS 20	GHz range	E, PI	30	20	4	25	125	110	≤ 900	450 (≧275)
BFS 55	JF-Radar-amplifiers	E, PI	–	12	3,5	50	175	325	≤ 700	3300
▼ **BFT 12**	Broadb. amp. for h. output power	E, PI	25	15	3,5	150	150	700	≤ 250	2000
BFW 16A	Output stages for antenna amplif.	E, PI	40	25	2	150	200	1500	≤ 250	1200
BFW 30	RF-amplifiers for broadband appl.	E, PI	20	10	2,5	100	200	250	< 700	1600
BFW 92	RF-amplifiers up to the GHz-range	E, PI	25	15	2,5	50	125	130	< 400	1600
BFW 99S	IF-Radar-Amplifiers	E, PI	–	12	3,5	20	200	200	< 700	3000
BFX 55	VHF output stages and broadb. amplif.	E, PI	60	40	3,5	400	175	2200	≤ 220	500
BFX 59	RF amplifiers up to 600 MHz	E, PI	30	20	3	100	175	370	≤ 650	900 (>600)
BFX 59F	RF amplifier stages	E, PI	30	20	3	100	175	370	≤ 650	900 (>600)
BFX 60	RF-amplifiers in emitter circuits	E, PI	40	25	4	25	175	370	≤ 650	550 (>400)
BFX 62	RF-amplifiers up to 1 GHz	PI	30	20	4	12	175	130	≤ 1000	675
BFX 89	UHF-antenna-amplifiers	E	30	15	2,5	25	200	200	≤ 700	1000
BFY 90	Antenna-amplifiers	E	30	15	2,5	25	200	200	≤ 700	≤ 1100

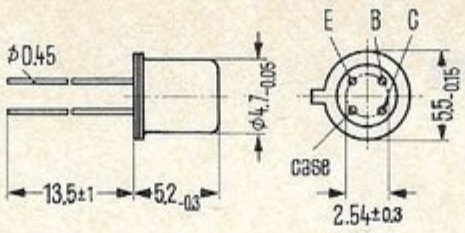
Silicon-Switch-Transistors

▼ **BSV 65**[1])	NPN-switching appl.	E, PI	20	15	5	150	150	150[2])	≤ 700	> 280
BSX 48	High-speed switch, core driver	E, PI	50	25	5	600	200	1000	≤ 500	400 (> 250)
BSX 49		E, PI	60	40	5	600	200	1000	≤ 500	400 (> 250)
BSY 17	High-speed-logic-switch sim. 2 N 743	E, PI	20	12	5	200	200	1000	≤ 500	> 280
BSY 18		E, PI	20	12	5	200	200	1000	≤ 500	> 280
BSY 34	High-speed-switch, core driver	E, PI	60	40	5	600	200	2600	≤ 220	400 (> 250)
BSY 58		E, PI	50	25	5	600	200	2600	≤ 220	400 (> 250)
BSY 62[1])	High-speed-logic-switch sim. 2 N 706A	E, PI	25	15	5	200	200	1000	≤ 500	> 200
BSY 63	High-speed-logic-switch sim. 2 N 708	E, PI	40	15	5	200	200	1000	≤ 500	> 300

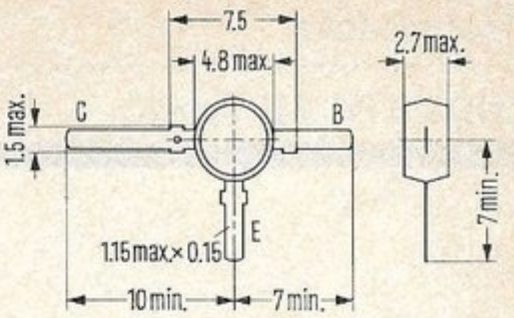
▼ New type [1]) Available in various current-grain groups [2]) Glass substrate 7 × 7 × 1 mm



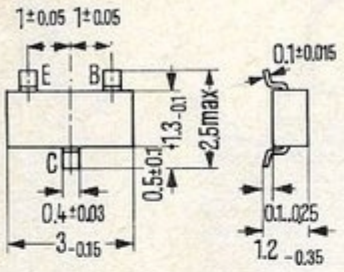
3 Weight approx. 1.6 g



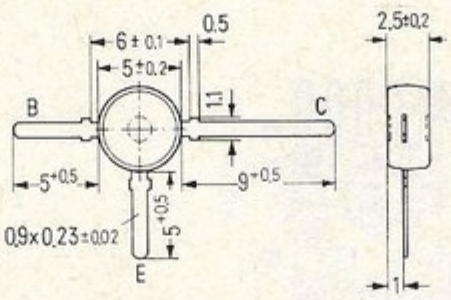
4 Weight approx. 0.4 g



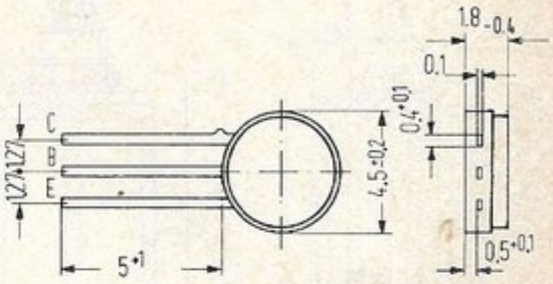
5 Weight approx. 0.25 g



7 Weight approx. 0.02 g



8 Weight approx. 0.2 g



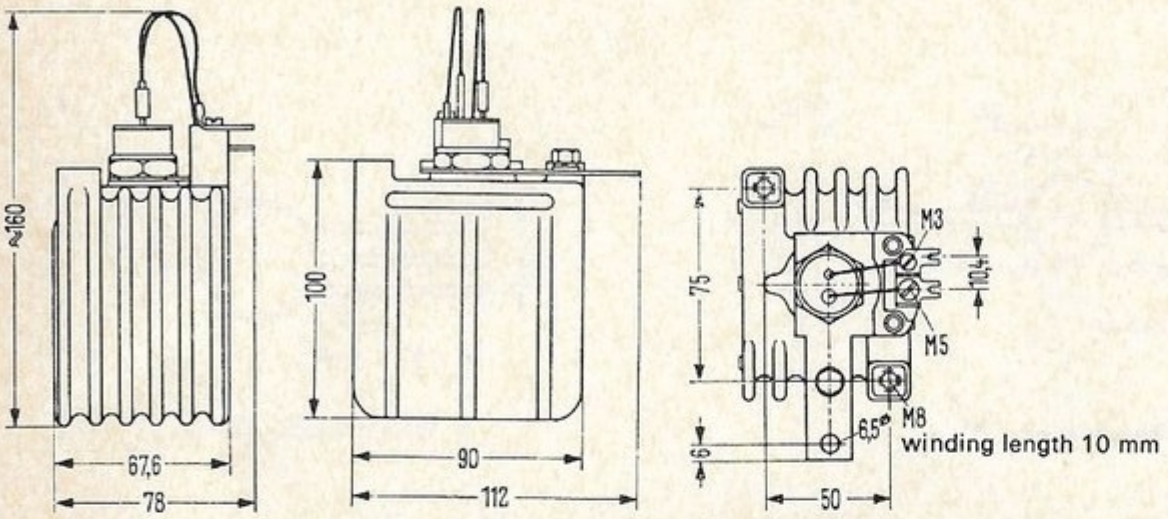
9 Weight approx. 0.07 g

Characteristics T_A (= 25 °C)

B [β] at I_C/I_B	I_C	V_{CE}	I_{CBO} I_{CES}*	at V_{CBO} at V_{CES}*	Remarks	Case designation Plastic = PL		Out-line
	mA	V	µA [nA]	V		DIN 41876	JEDEC	
> 30	5	6	[< 50]	10	F = 3 dB at I_C = 3 mA; V_{CE} = 10 V; f = 2 GHz	–	TO-113 sim.	1
> 25	5-20	6	[< 50]	10	F = 3 dB at I_C = 2 mA; V_{CE} = 6 V; f = 800 MHz	18 A 4	TO-72	2
> 30	5	5	[≦ 20]	20	$F \leq$ 4,5 dB at I_C = 3 mA; V_{CE} = 5 V; f = 1 MHz	glass/ceramic flatpack		9
> 25	5	6	[< 50]	10	F = 3 dB at I_C = 2 mA; V_{CE} = 6 V; f = 800 MHz	T-Plastic	TO-50 sim.	5
> 25	5	6	[< 50]	10	F = 3 dB at I_C = 2 mA; V_{CE} = 6 V; f = 800 MHz	23 A 3[4])	SOT-23	7
20 to 150	2	1	[< 50]	10	C_{12e} = 0,65 pF at I_C = 2 mA; V_{CE} = 5 V; f = 1 MHz	23 A 3[4])	SOT-23	7
85 (≦ 40)	7	10	[< 100]	20	C_{12e} = 0,35 pF at I_C = 1 mA; V_{CE} = 10 V; f = 1 MHz	23 A 3[4])	SOT-23	7
> 30	50	5	[< 50]	10	C_{12e} = 0,65 pF at I_C = 1 mA; V_{CE} = 8 V; f = 1 MHz	18 A 4	TO-72	2
> 25	50	5	–	–	V_p = 8 dB at I_C = 80 mA; V_{CE} = 7,5 V; f = 800 MHz	T-Plastic	TO-50 sim.	8
> 25	50	5	–	–	V_p = 6,5 dB at I_C = 70 mA; V_{CE} = 18 V; f = 800 MHz	5 C 3[3])	TO-39	3
> 25	50	50	[< 50]	10	V_p = 7,5 dB at I_C = 30 mA; V_{CE} = 5 V; f = 800 MHz	18 A 4	TO-72	4
≦ 20	25	1	[< 50]	10	V_p = 11 dB at I_C = 10 mA; V_{CE} = 10 V; f = 800 MHz	T-Plastic	TO-50 sim.	8
> 25	5	6	[< 50]	10	$F \leq$ 3 dB at I_C = 5 mA; V_{CE} = 6 V; f = 1 MHz	18 A 4	TO-72	2
30 to 160	50	5	[≦ 50]	40	C_{12e}=2,5 (<3,5) pF at I_C=1 mA; V_{CE}=10 V; f=1 MHz	5 C 3[3])	TO-39	3
[30 to 200]	10	10	[0,3 (≦ 10)]	20	C_{12e}=0,4 to 0,6 pF at I_C=1 mA; V_{CB}=10 V; f=1 MHz	18 A 4	TO-72	4
[30 to 200]	10	10	[0,3 (≦ 10)]	20	C_{12e}=0,6 to 0,9 pF at I_C=1 mA; V_{CB}=10 V; f=1 MHz	18 A 4	TO-72	4
100 > 50	7	10	–	–	F = 5 dB at I_C = 2 mA; V_{CE} = 10 V; f = 200 MHz	18 A 4	TO-72	2
40 (> 20)	2	10	[0,5 (< 50)]	20	F = 3 (< 4,5) dB at I_C=2 mA; V_{CE}=10V; f=100 MHz	18 A 4	TO-72	4
20 to 150	2	1	[≦ 10[	15	C_{CBO} = ≦ 1,7 pF at V_{CBO} = 10 V	18 A 4	TO-72	4
25 to 150	2	1	[≦ 10]	15	C_{CBO} = 1,5 pF at V_{CBO} = 10 V	18 A 4	TO-72	4
40 to 300	10	0,35	[< 500]	15	C_{CBO} < 5 pF at V_{CBO} = 5 V	23 A 3[4])	SOT-23	7
42 (> 17)	100	1	[< 120]	50	C_{CBO} = 4,5 (< 6) pF at V_{CBO} = 10 V	18 A 3	TO-18	6
42 (> 25)	100	1	[< 70]	50	C_{CBO} = 4,5 (< 6) pF at V_{CBO} = 10 V	18 A 3	TO-18	6
20 to 60	10	0,35	< 1	20	t_s < 14 ns at I_C = I_{B1} = $-I_{B2}$ = 10 mA; P_L = 1 kΩ	18 A 3	TO-18	6
40 to 120	10	0,35	< 1	20	t_s < 18 ns at I_C = I_{B1} = $-I_{B2}$ = 10 mA; P_L = 1 kΩ	18 A 3	TO-18	6
42 (> 25)	100	1	[< 70]	50	t_{on} = 30 (< 50) ns at V_{CC} = 40 V; R_L = 80 Ω	5 C 3[3])	TO-39	3
42 (> 17)	100	1	[< 120]	50	t_{on} = 35 (< 65) ns at V_{CC} = 25 V; R_L = 50 Ω	5 C 3[3])	TO-39	3
30 to 300	10	1	< 0,5	15	t_s < 25 ns at I_C = I_{B1} = $-I_{B2}$ = 10 mA; R_L = 1 kΩ	18 A 3	TO-18	6
30 to 120	10	1	[3 (< 25)]	20	t_s < 25 ns at I_C = I_{B1} = $-I_{B2}$ = 1 mA; R_L = 1 kΩ	18 A 3	TO-18	6

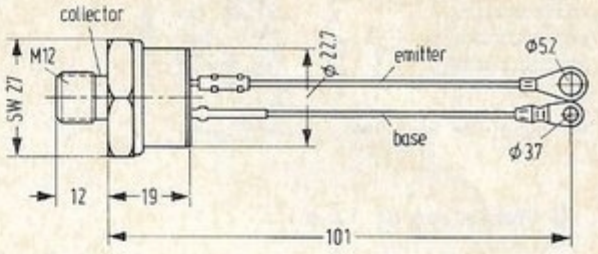
[3]) DIN 41873 [4]) DIN 41869

INDUSTRIAL Types

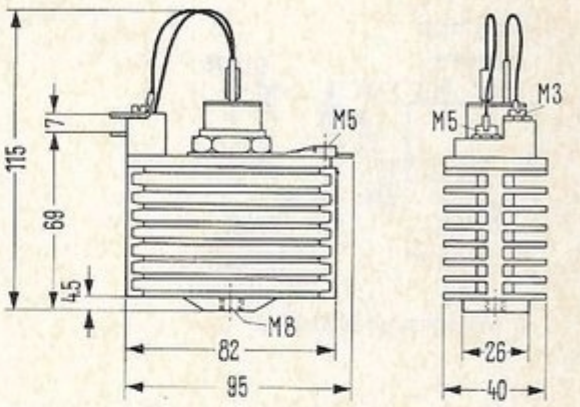


Weight approx. 700 g

Cooling block HK 04 (Order number C 66055-A 6104-B 2)
for BUY 26, BUY 27 and BUY 28
Thermal resistance at P_{tot} = 60 W
(Natural air cooling) $R_{th\,K}$ 1.1 K/W
at Forced-air-cooling 15 l/sec $R_{th\,K}$ 0.4 K/W



6 Weight approx. 50 g



Weight approx. 260 g

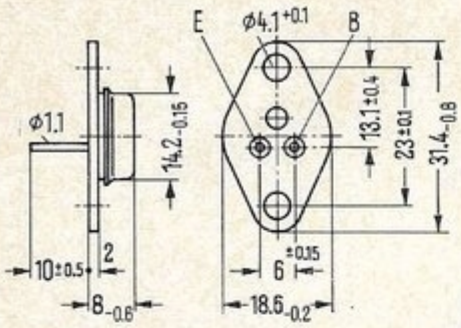
Cooling block FK 04
(Order number C 66055-A 6103-B 3)
for BUY 26, BUY 27, BUY 28
Thermal resistance at P_{tot} = 25 W
(Natural air cooling) $R_{th\,K}$ = 3 K/W

Silicon-Power-Transistors

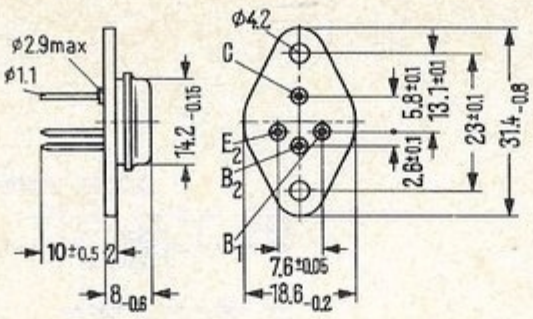
Type PNP (P) NPN (N)	Application		Maximum ratings							
			V_{CBO} V	V_{CEO} [V_{CES}] V	V_{EBO} V	I_C A	T_j °C	P_{tot} W	$R_{th\,Jcase}$ K/W	f_T MHz [KHz]
BDX 27[1] P	AF-output stages and switching applications	E, PI	40	40	5	5	200	34	≦ 4,6	50
BDX 28[1] P		E, PI	60	60	5	5	200	34	≦ 4,6	50
BDX 29[1] P		E, PI	80	80	5	5	200	34	≦ 4,6	50
BDX 30[1] P		E, PI	125	125	5	5	200	34	≦ 4,6	50
BDY 12[1]	AF output stages a. switching appl.	E, PI	–	[60]	5	3	175	26	≦ 5	70 (> 30)
BDY 13[1]	AF output stages a. switching appl.	E, PI	–	[80]	5	3	175	26	≦ 5	70 (> 30)
BDY 39[2]	AF power output stages	ED	100	60	7	15	200	115	≦ 1,5	1,1 (> 0,8)
BDY 87	Darlington stages for AF amplifiers and switching appl.	ED	20	20	7	8	200	35	≦ 4,4	–
BDY 88		ED	40	40	7	8	200	35	≦ 4,4	–
BDY 89		ED	60	60	7	8	200	35	≦ 4,4	–
BUY 26	Power switches for high voltages	L	200	150	15	10	100	100	0,6	[10]
BUY 27		L	360	250	25	10	100	100	0,6	[10]
BUY 28		L	420	300	25	10	100	100	0,6	[10]
BUY 35	Switch for higher voltages	DD	350	250	6	6	150	50	≦ 2	20
■ **BUY 43**[3]	AF amplifiers and switching appl.	ED	–	40	7	4	200	31	≦ 5	1,0
■ **BUY 46**[3]		ED	–	55	7	4	200	31	≦ 5	0,8
BUY 55	Power switch	DD	150	125	6	10	175	60	≦ 1,66	20 (> 10)
BUY 56		DD	250	160	6	10	175	60	≦ 1,66	20 (> 10)
BUY 57		DD	150	125	6	15	200	117	≦ 1,5	20
BUY 58	Power switch	DD	250	160	6	15	200	117	≦ 1,5	20
BUY 72		DD	280	200	6	10	175	60	≦ 1,66	20 (> 10)
BUY 73		DD	280	200	6	15	200	117	≦ 1,5	20
BUY 74	Power switch for high voltages	DD	400	250	7	12	175	120	≦ 1,25	15
BUY 75		DD	600	300	7	12	175	120	≦ 1,25	15
BUY 76		DD	750	350	7	12	175	120	≦ 1,25	15
BUY 77	Power switch for high voltages	DD	400	250	7	8	175	60	≦ 1,66	15
BUY 78		DD	600	300	7	8	175	60	≦ 1,66	15
BUY 79		DD	750	350	7	8	175	60	≦ 1,66	15
2 N 3054	AF amplifiers and switching appl.	ED	–	55	7	4	200	25	≦ 7	> 0,8
■ **2 N 3054S**[3]		ED	–	55	7	4	200	25	≦ 7	> 0,8
2 N 3055		ED	100	60	7	15	200	115	≦ 1,5	> 0,8
▼ **2 N 3441**	AF amplifiers and switching appl.	ED	160	140	7	3	200	25	≦ 7	> 0,8
2 N 3442		ED	160	140	7	10	200	117	≦ 1,5	–
2 N 4347		ED	140	120	7	10	200	117	≦ 1,5	–

[1]) Available in various current-gain groups [2]) matched pairs [3]) Substitute: 2 N 3054 [4]) DIN 41 875 [5]) I_{CER} at R_{BE} = 100 Ω

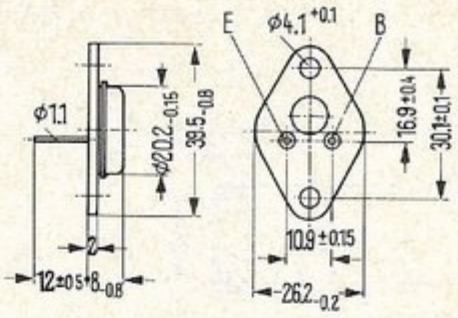
▼ new type ■ not for new developments



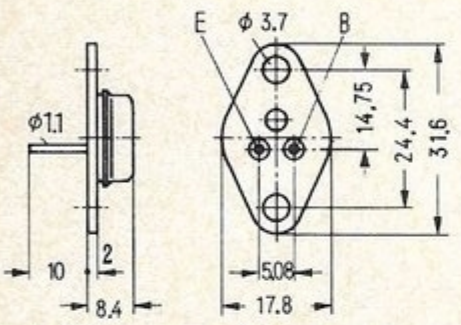
1 Weight approx. 8.3 g



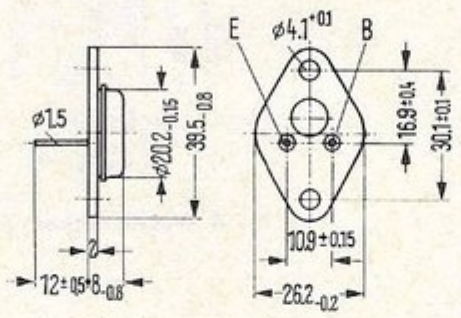
2 Weight approx. 9 g



3 Weight approx. 16.5 g



4 Weight approx. 8.5 g



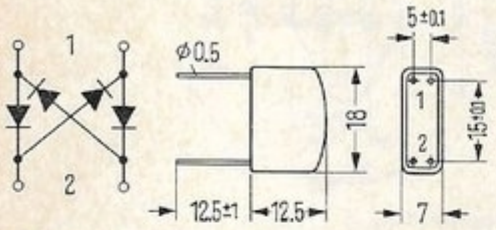
5 Weight approx. 17 g

Characteristics T_A (= 25 °C)

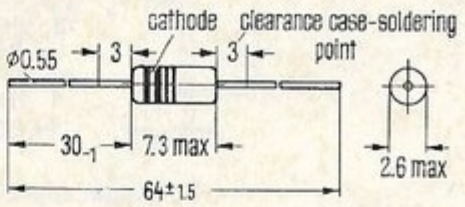
B I_C/I_B	at I_C	V_{CE}	I_{CBO} at I_{CES}* at	V_{CBO} V_{CES}*	V_{CEsat} at [V_{CE2sat}]	I_C	I_B	t_{on} (t_f)	Case designation		Out-line
	A	V	mA [nA]	V	V	A	A	µs	DIN 41872	JEDEC	
40 to 250	1	1	< 0,001	40	< 0,5	1	0,1	< 0,5	9 A 2[4])	SOT-9	1
40 to 250	1	1	< 0,001	60	< 0,5	1	0,1	< 0,5	9 A 2[4])	SOT-9	1
40 to 160	1	1	< 0,001	80	< 0,5	1	0,1	< 0,5	9 A 2[4])	SOT-9	1
40 to 160	1	1	< 0,001	125	< 0,5	1	0,1	< 0,5	9 A 2[4])	SOT-9	1
40 to 250	1	1	[10 (< 100)]*	40	< 0,8	2	0,2	< 0,3	9 A 2[4])	SOT-9	1
40 to 250	1	1	[10 (< 100)]*	60	< 0,8	2	0,2	< 0,3	9 A 2[4])	SOT-9	1
25 to 100	4	4	1*	100*	< 0,7	4	0,4	–	3 A 2	TO-3	3
2500 (> 500)	4	2	< 0,5	20	[< 1,8]	4	0,01	–	9 A 4[4])	SOT-9 sim.	2
2500 (> 1000)	4	2	< 0,5	40	[< 1,8]	4	0,01	–	9 A 4[4])	SOT-9 sim.	2
2500 (> 500)	4	2	< 0,5	60	[< 1,8]	4	0,01	–	9 A 4[4])	SOT-9 sim.	2
17 (> 13)	2	3	< 15[5])	200	0,4 (< 0,75)	8	2,6	30	Metal-screw-		6 and
17 (> 13)	2	3	< 15[5])	360	0,4 (< 0,75)	8	2,6	30	type-case		heat-
17 (> 13)	2	3	< 15[5])	420	0,4 (< 0,75)	8	2,6	30	with SW 27		sink
> 5	3	5	< 10*	350*	< 1,5	3	1	(1)	3 A 2	TO-3	3
40 to 250	0,5	1,5	< 1*	50*	< 1,1	2	0,2	–	9 A 2[4])	SOT-9	1
25 to 100	0,5	1,5	< 1*	190*	< 1	0,5	0,05	–	9 A 2[4])	SOT-9	1
25 to 160	2	1,5	< 1	150	< 1,5	7	0,875	< 1	3 A 2	TO-3	3
25 to 160	2	1,5	< 1	250	< 1,5	7	0,875	< 1	3 A 2	TO-3	3
> 12	10	1,5	< 1	130	< 1,3	10	1,25	< 1	3 A 2	TO-3 sim.	5
> 12	10	1,5	< 1	200	< 1,3	10	1,25	< 1	3 A 2	TO-3 sim.	5
25 to 160	2	1,5	< 1	280	< 1,5	7	0,875	< 1	3 A 2	TO-3	3
> 10	10	1,5	< 1	230	< 1,4	10	1,25	< 1	3 A 2	TO-3 sim.	5
> 10	5	1,5	< 1*	400	< 1,4	7	1,4	< 1	3 A 2	TO-3 sim.	5
> 10	5	1,5	< 1*	600	< 1,4	7	1,4	< 1	3 A 2	TO-3 sim.	5
> 8	5	1,5	< 1*	750	< 1,5	7	1,4	< 1	3 A 2	TO-3 sim.	5
> 5	5	1,5	< 1*	400*	< 1,4	5	1,25	(< 1)	3 A 2	TO-3	3
> 5	5	1,5	< 1*	600*	< 1,4	5	1,25	(< 1)	3 A 2	TO-3	3
> 4	5	1,5	< 1*	750*	< 1,5	5	1,25	(< 1)	3 A 2	TO-3	3
25 to 100	0,5	4	< 1	–	< 1	0,5	0,05	–	–	TO-66	4
25 to 100	0,5	4	< 1	–	< 1	0,5	0,05	–	9 A 2[4])	SOT-9	1
20 to 70	4	4	< 5	100*	< 1,1	4	0,4	–	3 A 2	TO-3	3
25 to 100	0,5	4	< 1	140	< 1	0,5	0,05	–	–	TO-66	4
20 to 70	3	4	< 1	140	< 1	2	0,2	–	3 A 2	TO-3	3
20 to 70	2	4	< 2	120	< 1	3	0,3	–	3 A 2	TO-3	3

Germanium Diodes

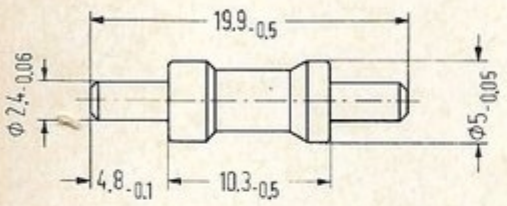
INDUSTRIAL-Types



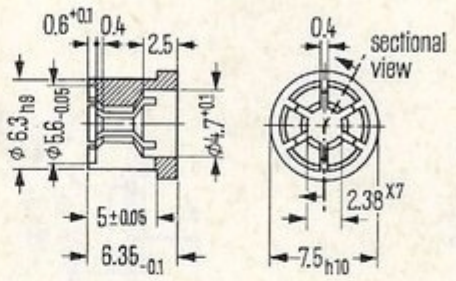
1 Weight approx. 5 g



2 Weight approx. 0.2 g



3 Weight approx. 2 g



4 Weight approx. 2 g

Germanium Diodes

Type	Reverse voltage V_R (V)	Forward voltage at I_F = 10 mA V_R (V)	Reverse current at V_R = 10 V I_R (µA)	Application	Out-line
AAY 27	25	0.58 (≦ 0.83)	6 (≦ 30)	RF- and switching diode	**2**
AAY 28	100	0.65 (≦ 1.15)	3 (≦ 7)	General purpose diode	**2**

Germanium Point Contact Diode Quad R_{thJA} ≦ 400 °C/W

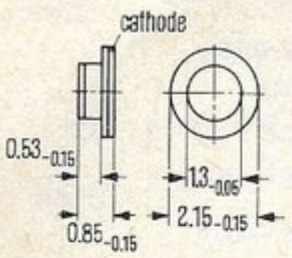
Type	Reverse voltage V_R (V)	Forward voltage at I_F = 10 mA V_F (V)	Reverse current at V_R = 10 V I_R (µA)	Application	Out-line
■ **AAY 43**[1])	25	0.58 (≦ 0.83)	6 (≦ 30)	Diode quad arranged as ring modulator	**1**

Germanium Point Contact Cartridge Diodes

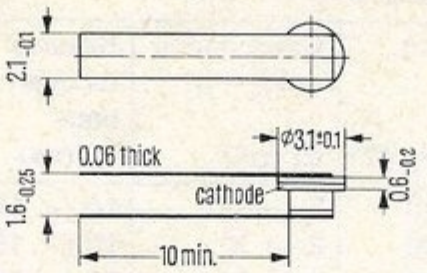
Type	Reverse voltage V_R (V)	Forward voltage at I_F = 2 mA V_F (V)	Reverse current at V_R = 40 V I_R (µA)	Application	Out-line
▼ **GD 731**	36	< 1	< 300	Measurements up to 1 GHz	**3**
▼ **GD 732**	36	< 1	< 300	Universal measurements	**3**
▼ **GD 733**	36	< 1	3 (< 5)[2])	Measurements up to 400 MHz	**3**
Adapter	–	–	–	Cu-Adapter for adjustment of diodes in the socket	**4**

[1]) Data refer to any individual diode of the quad.
[2]) V_R = 10 V

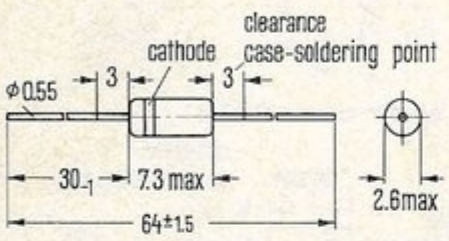
■ Not for new devices
▼ New type (substitutes for AAY 53, AAY 54, AA 55)



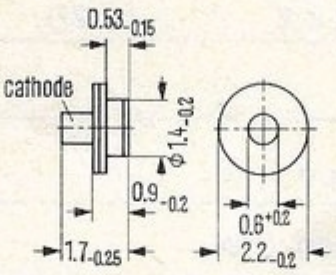
5 Weight approx. 0.1 g



6 Weight approx. 1 g



7 Weight approx. 0.3 g



8 Weight approx. 0.006 g

Germanium Tunnel Diodes (T_A = 25 °C)

Type	Peak current I_P (mA)	Peak voltage V_P (mV)	Diode capacitance C_D (pF)	Series resistance R_S (Ω)	Outline
AEY 30 A	1.6 (1.4 to 1.8)	75	0.6 to 0.9	5.5 < 8	**8**
AEY 30 B	1.6 (1.4 to 1.8)	75	0.9 to 1.2	5.5 < 8	**8**
AEY 30 C	1.6 (1.4 to 1.8)	75	1.2 to 1.5	5.5 < 8	**8**
AEY 30 D	1.6 (1.4 to 1.8)	75	1.5 to 1.8	5.5 < 8	**8**
TU 205/5	5 (4.75 to 5.25)	80	7 (4 to 10)	2 < 3	**7**
TU 205/10	5 (4.5 to 5.5)	80	7 (4 to 10)	2 < 3	**7**
TU 210/5	10 (9.5 to 10.5)	90	10 (6 to 13)	1.5 < 2.5	**7**
TU 210/10	10 (9 to 11)	90	10 (6 to 13)	1.5 < 2.5	**7**
TU 220/5	20 (19 to 21)	110	20 (10 to 30)	1 < 2.5	**7**
TU 220/10	20 (18 to 22)	110	20 (10 to 30)	1 < 2.5	**7**
TU 301	1 (0.9 to 1.1)	65	1.5 < 3	4 <6	**6**
TU 302	2 (1.8 to 2.2)	70	3 < 5	3 < 5	**6**
TU 305/5	5 (4.75 to 5.25)	80	5 < 8	2 < 3	**6**
TU 305/10	5 (4.5 to 5.5)	80	5 < 8	2 < 3	**6**
TU 310/5	10 (9,5 to 10.5)	90	10 < 15	1.5 < 2.5	**6**
TU 310/10	10 (9 to 11)	90	10 < 15	1.5 < 2.5	**6**
TU 320/5	20 (19 to 21)	110	15 < 20	1.5 < 2.5	**6**
TU 320/10	20 (18 to 22)	110	15 < 20	1.5 < 2.5	**6**
TU 410/5	10 (9.5 to 10.5)	100	3 < 5	3 < 5	**5**
TU 410/10	10 (9 to 11)	100	3 < 5	3 < 5	**5**

Germanium Backward Diodes (T_A = 25 °C)

Type	Reverse voltage V_R at I_R = 300 µA (mV)	Forward voltages V_F at I_F = 3 mA (mV)	Total capacitance C_D (pF)	Outline
TU 300	500	80 to 120	< 1.5 (0.8)	**6**

TU 1 B is substituted by TU 300

■ Not for new devices

Reference list

n-Ge-Tunnel diode type
Substitute: p-Ge-Tunnel-diode type

previous	new
■ **TU 10/1**	**TU 301**
■ **TU 10/2**	
■ **TU 101**	
■ **TU 11/1**	**TU 302**
■ **TU 11/2**	
■ **TU 102**	
■ **TU 12/1**	**TU 305**
■ **TU 12/2**	
■ **TU 105**	**TU 205**
■ **TU 13/1**	**TU 310**
■ **TU 13/2**	
■ **TU 110**	**TU 210**
■ **TU 14/1**	**TU 320**
■ **TU 14/2**	

INDUSTRIAL Types

Silicon Planar Switching Diodes $R_{th\,Jamb} \leqq 520$ °C/W

Type	Reverse voltage V_R (V)	Forward current I_F (mA)	Reverse current I_R (nA) at V_R (V)		Capacitance at $V_R = 0$ C_o (pF)	Reverse recovery time t_{rr} (ns)	Outline
BAY 41	40	< 225	⩽ 50	20	3 (< 5)	10 (< 15)[5])	3
BAY 42	60	< 225	⩽ 50	30	3 (< 5)	10 (< 15)[5])	3
BAY 43	80	< 225	⩽ 50	40	3 (< 5)	10 (< 15)[5])	3
■ **BAY 60**	25	115	⩽ 100	25	⩽ 4	⩽ 2[6])	3
BAY 61	75	200	⩽ 25	20	⩽ 4	⩽ 4[6])	4
■ **BAY 63**	50	200	⩽ 100	50	⩽ 2	⩽ 2[6])	3
BAW 75	35	300	⩽ 100	25	⩽ 4	⩽ 2[6])	6
BAW 76	75	300	⩽ 100	50	⩽ 2	⩽ 2[6])	6

Silicon Double Diode with common cathode

▼ **BAV 74**	50	150[8])	Forward voltage at I_F = 100 mA V_F = 1 V		4	8

Silicon General Purpose Diodes $R_{th\,Jamb} \leqq 400$ °C/W

Type	Reverse voltage V_R (V)	Forward voltage at I_F = 100 mA V_F (V)	Reverse current at V_R I_R (μA)	Application	Outline
BAY 44	50	0.97 (< 1.1)	0.02 (< 0.2)	General purpose	3
BAY 45	150	0.97 (< 1.1)	0.02 (< 0.2)	General purpose	3
BAY 46	300	0.97 (< 1.1)	0.02 (< 0.2)	General purpose	3

Silicon Capacitance Diodes

Type	Reverse voltage V_R (V)	Diode capacitance f = 1 MHz V_R = 3 V C_D = (pF)	V_R = 30 V C_D = (pF)	Q-factor at 30 pF and 100 MHz Q	Series resistance at 30 pF and 100 MHz r_s (Ω)	Outline
▼ **BBY 30**	30	29 to 31	11	> 100	< 0.5	3

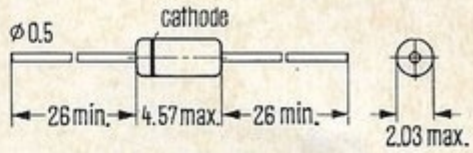
Silicon Double Capacitance Diodes with common cathode

Type	Reverse voltage V_R (V)	Diode capacitance f = 1 MHz V_R = 3 V C_D (pF)	V_R = 30 V C_D (pF)	Q-factor at 38 pF and 100 MHz Q	Series resistance at 38 pF and 100 MHz r_s (Ω)	Outline
▼ **BBY 29**	30	38 to 40	14.5 to 16.5	> 90	< 0.9	9

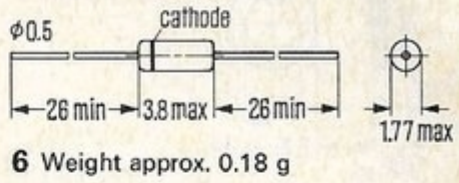
Silicon Varactors For Tuning and Modulation

Type	Reverse voltage V_R (V)	Diode capacitance (V_R = 15 V; f = 1 MHz) C_D (pF)	Series resistance (V_R = 3 V; f = 2.4 GHz) R_S (Ω)	Q-factor[7]) (Q)	Outline
BBY 24	120	14 (12 to 16)[2])	< 0.9[3])	> 250	7
BBY 25	120	18 (16 to 20)[2])	< 0.9[3])	> 200	7
BBY 26	120	22 (20 to 24)[2])	< 0.9[3])	> 200	7
BBY 27	120	38 (36 to 40)[2])	< 0.9[3])	> 200	7
▼ **BXY 21 CA**	20	2 (1.5 to 2.5)[2])	0.5 (< 0.8)[4])	–	2
BXY 22 G	30	10 (8.8 to 11.2)	< 1.5		2
BXY 22 H	30	12 (10.8 to 13.2)	< 1.5		2
BXY 22 J	30	14.5 (13 to 16)	< 1.5		2
BXY 23	30	12 (10.7 to 13.3)[1])	< 0.9		1
BXY 24 EA 3	60	6 (5 to 8)[2])	< 0.8		5

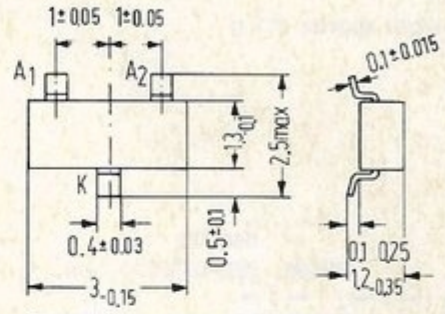
[1]) V_R = 3 V, f = 1 MHz [2]) V_R = 0 V, f = 1 MHz [3]) V_R = 100 V, f = 2.4 GHz [4]) V_R = 20 V, f = 2.4 GHz
[5]) Reverse recovery time measured with sampling oscilloscope when switching from I_F = 200 mA to I_R = 200 mA to 10% of I_R
[6]) Reverse recovery time measured when switched from I_F = 100 mA, V_R = 6 V, R_L = 100 Ω
[7]) Q-factor, measured at V_R = 4 V, f = 50 MHz
[8]) Sum of both diode currents
■ Not for new developments
▼ New type



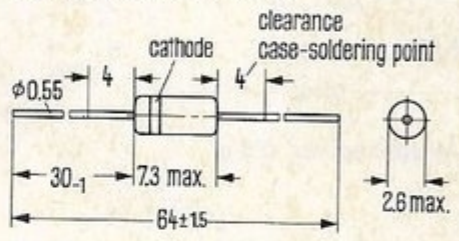
4 Weight approx. 0.18 g



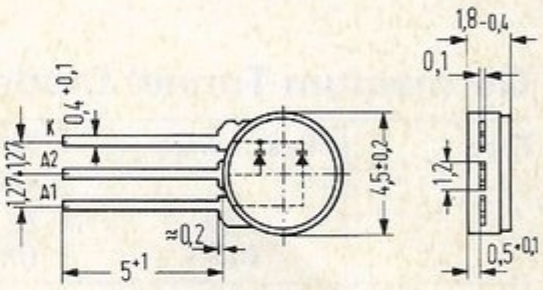
6 Weight approx. 0.18 g



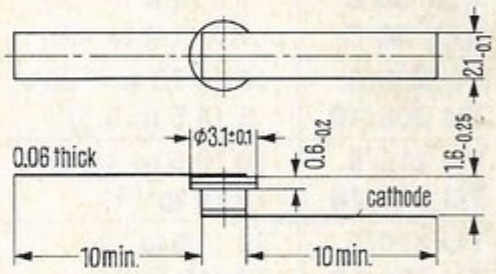
8 Weight approx. 0.02 g



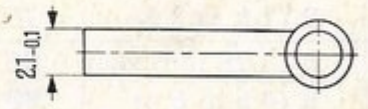
3 Weight approx. 0.2 g



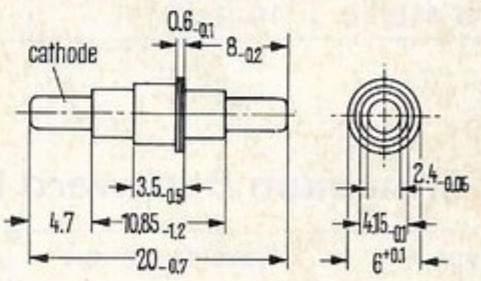
9



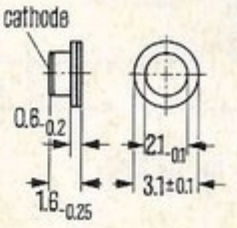
7 Weight approx. 1 g



5 Weight approx. 0.18 g



2 Weight approx. 1.4 g



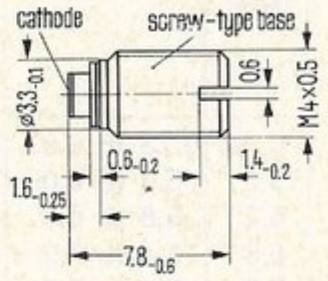
1 Weight approx. 0.1 g

Silicon Varactors

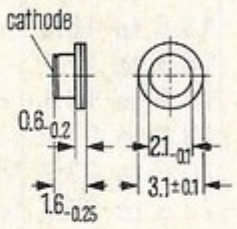
INDUSTRIAL Types

Charge Storage Varactors For frequency multiplication

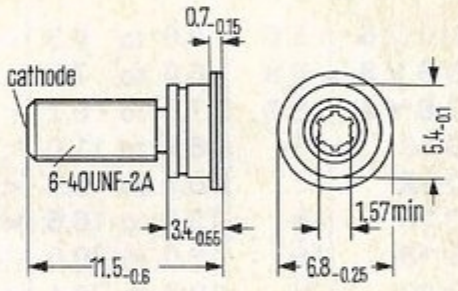
Type	Breakdown voltage (I_R = 10 µA) V_R (V)	Diode capacitance (V_R = 0 V, f = 1 MHz) C_D (pF)	Frequency range recommend. (GHz)	Input power P_E (W)	Out-line
BXY10A/13A	35 (30– 40)	1,0 (0,5–1,5)	1–15	to 0,5	**2/1**
BXY10B/13B	40 (33– 47)	1,3 (0,9–1,8)	1–15	to 1	**2/1**
BXY10C/13C	42 (34– 50)	2,5 (1,5–3,5)	1–10	to 1,5	**2/1**
BXY10D/13D	60 (50– 70)	4,5 (3 –6)	1–10	to 2,5	**2/1**
BXY11E/14E	60 (50– 70)	7,5 (5 –10)	0,3 –5	to 3	**2/1**
BXY11F/14F	75 (60– 90)	13,5 (9 –18)	0,05–2	to 4	**2/1**
BXY11GA/14GA	75 (60– 90)	20 (15 –25)	0,05–2	to 4	**2/1**
BXY15CA–1	44 (38– 50)	2 (1,5–3,5)	2–15	to 2,5	**4**
BXY15CA–2	44 (38– 50)	2,0 (1,5–3,5)	2–15	to 2,5	**2**
BXY15DC–1	60 (50– 70)	5,0 (3 –6)	1–10	to 5	**4**
BXY15DC–2	60 (50– 70)	5,0 (3 –6)	1–10	to 5	**2**
BXY16B	45 (40– 50)	1,3 (0,9–1,8)	2–13	to 1,5	**4**
BXY16C1	60 (52– 70)	2,0 (1,5–3,5)	1–10	to 4	**4**
BXY16C2	60 (52– 70)	2,0 (1,5–3,5)	1–10	to 4	**2**
▼ **BXY 17 CA–1**	55–70	1,5–2,5	1–10	to 4	**2**
▼ **BXY 17 CA–2**	55–70	1,5–2,5	1–10	to 4	**4**
BXY19E	95 (85–105)	8 (5 –10)	0,1–3	to 8	**3**
BXY19F	95 (85–105)	12 (9 –18)	0,1–3	to 15	**3**
BXY19FB	95 (85–105)	15 (12 –18)	0,1–3	to 15	**3**
BXY19GB	105 (95–115)	25 (20 –30)	0,1–2,4	to 20	**3**
BXY19HA	125 (115–135)	35 (30 –40)	0,1–2	to 30	**3**



1 Weight approx. 0.5 g



2 Weight approx. 0.1 g

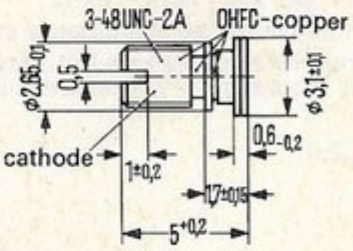


3 Weight approx. 1.5 g

Avalanche-(IMPATT)-Diodes

for generation and amplification of power-microwaves

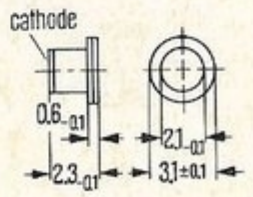
Type	Operating value V_R (V)	Operating value I_R (mA)	CW-output power P (mW)	Frequency range (GHz)[2]	Out-line
BGY 12 A	120–160	15– 25	> 50	4– 6	**4**
BGY 12 B	120–160	15– 25	> 100	4– 6	**4**
BGY 13 A	85–105	30– 40	> 25	8–10	**4**
BGY 13 B	85–105	30– 40	> 75	8–10	**4**
BGY 14 A[1]	120–160	60– 80	> 500	5– 7	**4**[3]
BGY 14 B[1]	120–160	80–100	> 750	5– 7	**4**[3]



4 Weight approx. 0.15 g

PIN Diodes for phase shifting and switching application in the GHz-range

Type	Breakdown voltage (I_R = 10 µA) V_{BR} (V)	Diode capacitance V_R = 50 V; f = 1 MHz) C_{VR} (pF)	Storage time (I_F = 10 mA; I_R = 6 mA) t_S (µs)	Out-line
BXY 42	> 150	< 0,3	> 0,2	**5**
BXY 43	> 150	< 0,45	> 0,25	**5**
BXY 44	> 350	< 1,3	> 2	**4**



5 Weight approx. 0.12 g

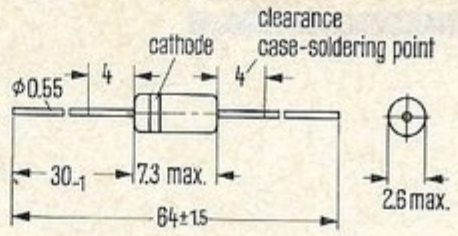
▼ New device

[1]) Upside down diodes for maximum heat dissipation
[2]) Other frequency ranges on request
[3]) Cathode on topside (reversed polarity)

Silicon Zener Diodes

INDUSTRIAL Types

BZX 55 $R_{thJU} \leq 500$ K/W



Weight approx. 0.2 g

Silicon Planar Z-Diodes

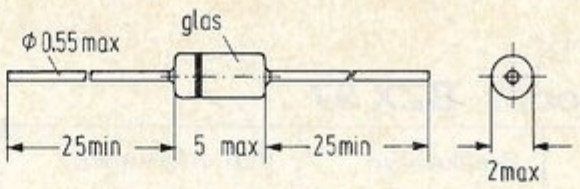
Type BZX 55 . . .	Rated voltage	I_Z = 5 mA		I_Z = 1 mA	I_R at			I_Z[4])	I_{Zmax}[4])
		V_Z-range	r_Z dyn	r_Z dyn[2])	T_A=25 °C	T_A = 150 °C	V_R	T_L = 50 °C[3])	T_L = 100°C[3])
		(V)[1])*	(Ω)[2])*	(Ω)	(nA)	(μA)	(V)	(mA)	(mA)
■ BZX 55 C 0 V 8	0,78	0,73 to 0,83	< 8	–	–	–	–	–	–
■ BZX 55 C 5 V 6	5,6	5,2 to 6,0	< 40	< 450	2 < 100	0,1 < 2	1	60	36
■ BZX 55 C 6 V 2	6,2	5,8 to 6,6	< 10	< 200	2 < 100	0,1 < 2	2	55	33
■ BZX 55 C 6 V 8	6,8	6,4 to 7,2	< 8	< 150	2 < 100	0,1 < 2	3	48	29
■ BZX 55 C 7 V 5	7,5	7,0 to 7,9	< 7	< 50	2 < 100	0,1 < 2	5	44	27,5
■ BZX 55 C 8 V 2	8,2	7,7 to 8,7	< 7	< 50	2 < 100	0,1 < 2	6	39	23,5
■ BZX 55 C 9 V 1	9,1	8,5 to 9,6	< 10	< 50	2 < 100	0,1 < 2	7	36	22
■ BZX 55 C 10	10	9,4 to 10,6	< 15	< 70	2 < 100	0,1 < 2	7,5	33	20
■ BZX 55 C 11	11	10,4 to 11,6	< 20	< 70	2 < 100	0,1 < 2	8,5	30	18
■ BZX 55 C 12	12	11,4 to 12,7	< 20	< 90	2 < 100	0,1 < 2	9,0	27	16
■ BZX 55 C 13	13	12,4 to 14,1	< 26	< 110	2 < 100	0,1 < 2	10	24	14,4
■ BZX 55 C 15	15	13,8 to 15,6	< 30	< 110	2 < 100	0,1 < 2	11	22,5	13,5
■ BZX 55 C 16	16	15,3 to 17,1	< 40	< 170	2 < 100	0,1 < 2	12	20	12
■ BZX 55 C 18	18	16,8 to 19,1	< 55	< 170	2 < 100	0,1 < 2	14	18,5	11
■ BZX 55 C 20	20	18,8 to 21,2	< 55	< 220	2 < 100	0,1 < 2	15	17	10
■ BZX 55 C 22	22	20,8 to 23,3	< 55	< 220	2 < 100	0,1 < 2	17	15,5	9,3
■ BZX 55 C 24	24	22,8 to 25,6	< 80	< 220	2 < 100	0,1 < 2	18	14	8,4
BZX 55 C 27	27	25,1 to 28,9	< 80	< 220	2 < 100	0,1 < 2	20	12,5	7,5
BZX 55 C 30	30	28,0 to 32,0	< 80	< 220	2 < 100	0,1 < 2	22	11	6,6
BZX 55 C 33	33	31,0 to 35,0	< 80	< 220	2 < 100	0,1 < 2	24	10	6
BZX 55 C 36	36	34,0 to 38,0	< 80	< 220	2 < 100	0,1 < 2	27	9,5	5,7
BZX 55 D 5 V 6	5,6	5,0 to 6,3	< 60	< 600	2 < 100	0,1 < 2	1	59	35,5
BZX 55 D 6 V 8	6,8	6,0 to 7,5	< 15	< 200	2 < 100	0,1 < 2	2	47	28
BZX 55 D 8 V 2	8,2	7,3 to 9,2	< 10	< 50	2 < 100	0,1 < 2	6	38	23
BZX 55 D 10	10	8,8 to 11,0	< 15	< 70	2 < 100	0,1 < 2	7	31	18,5
■ BZX 55 D 12	12	10,7 to 13,4	< 30	< 90	2 < 100	0,1 < 2	8,5	25	15
■ BZX 55 D 15	15	13,0 to 16,5	< 55	< 170	2 < 100	0,1 < 2	11	23	14
■ BZX 55 D 18	18	16,0 to 20,0	< 55	< 220	2 < 100	0,1 < 2	13	18	10,8
■ BZX 55 D 22	22	19,6 to 24,4	< 55	< 220	2 < 100	0,1 < 2	16	15	9
■ BZX 55 D 27	27	24,1 to 30,0	< 80	< 220	2 < 100	0,1 < 2	20	12	7,2
■ BZX 55 D 33	33	29,6 to 36,5	< 80	< 220	2 < 100	0,1 < 2	24	9,5	5,7

BZX 55 C0 V 8 has to be operated in forward direction, it offers narrow tolerances. The cathode is marked by a colour ring and has to be connected to the negative pole of the power supply.

[1]) Measured at current pulses < 100 ms
[2]) Measuring points $I_{eff} = 0.1 \cdot I_Z$, f = 1 kHz
[3]) T_L = Soldering dot temperature at a distance of 4 mm from the case
[4]) Valid, when connecting wires are kept in a distance of 4 mm at a constant temperature of 50 °C resp. 100 °C (T_L), May be exceeded if total power dissipation is $\leq P_{adm}$
*) AQL = 0.65%
■ Not for new devices

INDUSTRIAL Types

BZX 83 $R_{thJU} \leq 300$ K/W



Weight approx. 0.5 g

Silicon Planar Z-Diodes **BZX 83 . . .**

Index of types (at T_{amb} = 25 °C)

Type	Rated voltage	Breakdown voltage range I_Z = 5 mA	dyn. resistance		Reverse current	
			I_Z=5 mA	I_Z=1 mA		at
	V_Z (V)[1]	V_Z (V)	r_Z (Ω)	r_Z (Ω)	I_R (μA)	V_R (V)
BZX 83 C 0 V 8	0,78	0,73 to 0,83	< 10	–	–	–
BZX 83 C 2 V 4	2,4	2,28 to 2,56	< 90	< 600	< 120	1
BZX 83 C 2 V 7	2,7	2,5 to 2,9	< 90	< 600	< 100	1
BZX 83 C 3 V 0	3	2,8 to 3,2	< 90	< 600	< 60	1
BZX 83 C 3 V 3	3,3	3,1 to 3,5	< 90	< 600	< 30	1
BZX 83 C 3 V 6	3,6	3,4 to 3,8	< 90	< 600	< 20	1
BZX 83 C 3 V 9	3,9	3,7 to 4,1	< 85	< 600	< 10	1
BZX 83 C 4 V 3	4,3	4,0 to 4,6	< 80	< 600	< 5	1
BZX 83 C 4 V 7	4,7	4,4 to 5,0	< 80	< 600	< 2	1
BZX 83 C 5 V 1	5,1	4,8 to 5,4	< 60	< 550	< 1	1
BZX 83 C 5 V 6	5,6	5,2 to 6,0	< 40	< 450	< 1	1
BZX 83 C 6 V 2	6,2	5,8 to 6,6	< 10	< 200	< 1	2
BZX 83 C 6 V 8	6,8	6,4 to 7,2	< 8	< 150	< 1	3
BZX 83 C 7 V 5	7,5	7,0 to 7,9	< 7	< 50	< 1	3,5
BZX 83 C 8 V 2	8,2	7,7 to 8,7	< 7	< 50	< 1	4
BZX 83 C 9 V 1	9,1	8,5 to 9,6	< 10	< 50	< 1	5
BZX 83 C 10	10	9,4 to 10,6	< 15	< 70	< 1	6
BZX 83 C 11	11	10,4 to 11,6	< 20	< 70	< 1	7
BZX 83 C 12	12	11,4 to 12,7	< 20	< 90	< 1	8
BZX 83 C 13	13	12,4 to 14,1	< 25	< 110	< 1	9
BZX 83 C 15	15	13,8 to 15,6	< 30	< 110	< 1	11
BZX 83 C 16	16	15,3 to 17,1	< 40	< 170	< 1	11
BZX 83 C 18	18	16,8 to 19,1	< 55	< 170	< 1	12
BZX 83 C 20	20	18,8 to 21,2	< 55	< 220	< 1	14
BZX 83 C 22	22	20,8 to 23,2	< 58	< 220	< 1	15
BZX 83 C 24	24	22,8 to 25,6	< 80	< 220	< 1	16
BZX 83 C 27	27	25,4 to 28,6	< 80	< 250	< 1	18
BZX 83 C 30	30	28,4 to 31,6	< 90	< 250	< 1	20
BZX 83 C 33	33	31,3 to 34,5	< 90	< 250	< 1	22

[1]) Measured at pulses with t_p < 100 ms

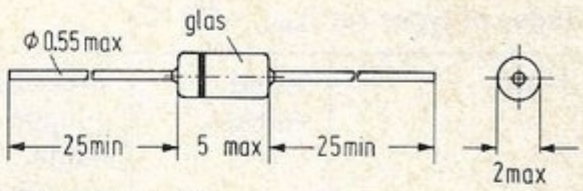
INDUSTRIAL Types

For professional applications
Index of types (at T_{amb} = 25 °C)

Silicon Planar Z-Diodes BZX 97 . . .

Type	Rated voltage V_Z (V)	Breakdown voltage range I_Z = 5 mA V_Z (V)	dyn. resistance I_Z=5mA r_Z (Ω)	dyn. resistance I_Z=1mA r_Z (Ω)	Reverse current I_R (nA)	Reverse current at V_R (V)
BZX 97 C 0 V 8	0,78	0,73 to 0,83	< 8	–	–	–
BZX 97 C 2 V 4	2,4	2,28 to 2,56	< 85	< 600	< 10000	1
BZX 97 C 2 V 7	2,7	2,5 to 2,9	< 85	< 600	< 10000	1
BZX 97 C 3 V 0	3	2,8 to 3,2	< 80	< 600	< 4000	1
BZX 97 C 3 V 3	3,3	3,1 to 3,5	< 85	< 600	< 2000	1
BZX 97 C 3 V 6	3,6	3,4 to 3,8	< 85	< 600	< 2000	1
BZX 97 C 3 V 9	3,9	3,7 to 4,1	< 85	< 600	< 2000	1,5
BZX 97 C 4 V 3	4,3	4,0 to 4,6	< 75	< 600	< 1000	1
BZX 97 C 4 V 7	4,7	4,4 to 5,0	< 60	< 600	100 < 500	1
BZX 97 C 5 V 1	5,1	4,8 to 5,4	< 35	< 550	10 < 100	1
BZX 97 C 5 V 6	5,6	5,2 to 6,0	< 25	< 450	10 < 100	1
BZX 97 C 6 V 2	6,2	5,8 to 6,6	< 10	< 200	10 < 100	2
BZX 97 C 6 V 8	6,8	6,4 to 7,2	< 8	< 150	10 < 100	3
BZX 97 C 7 V 5	7,5	7,0 to 7,9	< 7	< 50	10 < 100	5
BZX 97 C 8 V 2	8,2	7,7 to 8,7	< 7	< 50	10 < 100	6
BZX 97 C 9 V 1	9,1	8,5 to 9,6	< 10	< 50	10 < 100	7
BZX 97 C 10	10	9,4 to 10,6	< 15	< 70	10 < 100	7,5
BZX 97 C 11	11	10,4 to 11,6	< 20	< 70	10 < 100	8,5
BZX 97 C 12	12	11,4 to 12,7	< 20	< 90	10 < 100	9
BZX 97 C 13	13	12,4 to 14,1	< 26	< 110	10 < 100	10
BZX 97 C 15	15	13,8 to 15,6	< 30	< 110	10 < 100	11
BZX 97 C 16	16	15,3 to 17,1	< 40	< 170	10 < 100	12
BZX 97 C 18	18	16,8 to 19,1	< 55	< 170	10 < 100	14
BZX 97 C 20	20	18,8 to 21,2	< 55	< 220	10 < 100	15
BZX 97 C 22	22	20,8 to 23,2	< 55	< 220	10 < 100	17
BZX 97 C 24	24	22,8 to 25,6	< 80	< 220	10 < 100	18
BZX 97 C 27	27	25,4 to 28,6	< 80	< 220	10 < 100	20
BZX 97 C 30	30	28,4 to 31,6	< 80	< 220	10 < 100	22
BZX 97 C 33	33	31,3 to 34,5	< 80	< 220	10 < 100	24

BZX 97 R_{thJU} = 300 K/W

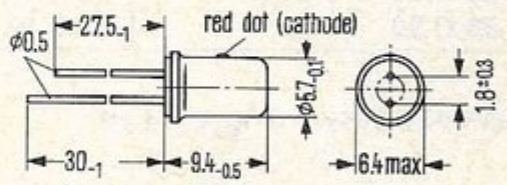


Weight approx. 0.5 g

Silicon Z-Diodes BZY 83 . . .

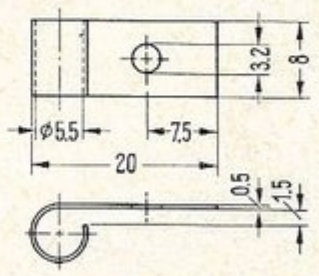
Type	Rated voltage (V)	$I_{Z\,meas}$ = 5 mA V_Z-range* (V)	r_Z dyn* (Ω)	$r_{Z\,stat}$ (Ω)	I_R* at V_R = 1 V (nA)	V_R* at I_R = 1 μA (V)	$I_{Z\,max}$[1]) T_A = 45 °C (mA)
■ **BZY 83/C 4V7**	4,7	4,4 to 5,0	66 < 90	66	< 500	> 1	52
■ **BZY 83/C 5V1**	5,1	4,8 to 5,4	48 < 75	48	< 500	> 1	48
■ **BZY 83/C 5V6**	5,6	5,2 to 6,0	20 < 60	20	< 500	> 1	43,5
■ **BZY 83/C 6V2**	6,2	5,8 to 6,6	8 < 40	11	< 500	> 1	39,5
■ **BZY 83/C 6V8**	6,8	6,4 to 7,2	3,5 < 8	9	< 100	> 1,5	36
■ **BZY 83/C 7V5**	7,5	7,0 to 7,9	3,5 < 6	10	< 100	> 1,5	33
■ **BZY 83/C 8V2**	8,2	7,7 to 8,7	4 < 7	14	< 100	> 3	30
■ **BZY 83/C 9V1**	9,1	8,5 to 9,6	5,5 < 10	18	< 100	> 3	27
■ **BZY 83/C 10**	10	9,4 to 10,6	7 < 15	24	< 100	> 4,5	24,5
■ **BZY 83/C 11**	11	10,4 to 11,6	9,5 < 20	31	< 100	> 4,5	22
■ **BZY 83/C 12**	12	11,4 to 12,8	12 < 30	39	< 100	> 6,5	20,2
■ **BZY 83/C 13**	13	12,6 to 14,1	17 < 30	54	< 100	> 6,5	18,4
■ **BZY 83/C 15**	15	13,8 to 15,6	24 < 55	70	< 100	> 9,5	16,8
■ **BZY 83/C 16**	16	15,3 to 17,1	34 < 75	92	< 100	> 9,5	15,3
■ **BZY 83/C 18**	18	16,8 to 19,1	47 < 110	120	< 100	> 9,5	13,6
■ **BZY 83/C 20**	20	18,8 to 21,2	70 < 150	160	< 100	> 9,5	12,3
■ **BZY 83/C 22**	22	20,8 to 23,3	95 < 170	205	< 100	> 11,5	11,3
■ **BZY 83/C 24**	24	22,8 to 25,6	120 < 200	250	< 100	> 11,5	10,2
■ **BZY 83/D 1**	0,7	0,62 to 0,78	8	–	–	> 1	200
■ **BZY 83/D 4V7**	4,7	4,1 to 5,2	66 < 90	66	< 500	> 1	49
■ **BZY 83/D 5V6**	5,6	5,0 to 6,3	20 < 75	20	< 500	> 1	41
■ **BZY 83/D 6V8**	6,8	6,0 to 7,5	3,5 < 15	9	< 100	> 1,5	35
■ **BZY 83/D 8V2**	8,2	7,3 to 9,2	4 < 10	14	< 100	> 3	28,2
■ **BZY 83/D 10**	10	8,8 to 11,0	7 < 15	24	< 100	> 4,5	23,5
■ **BZY 83/D 12**	12	10,7 to 13,4	12 < 30	39	< 100	> 6,5	19
■ **BZY 83/D 15**	15	13 to 16,5	24 < 55	70	< 100	> 9,5	15,6
■ **BZY 83/D 18**	18	16 to 20	47 < 100	120	< 100	> 9,5	13
■ **BZY 83/D 22**	22	19,6 to 24,4	95 < 200	205	< 100	–	10,6

BZY 83 $R_{thJU} \leq$ 500 K/W



Weight approx. 1 g

Kühlschelle für BZY 83



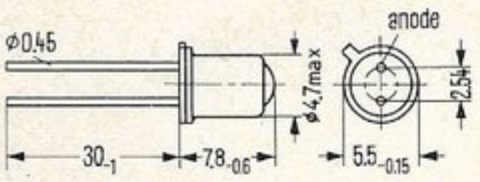
Weight approx. 2 g

The Z-diode BZY 83 D 1 has to be operated in forward direction. The cathode is marked by a red dot and has to be connected to the negative pole of the power supply.

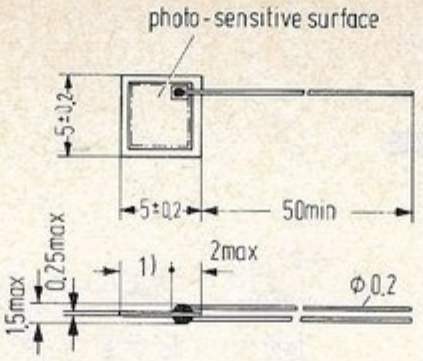
[1]) Valid when connecting wires are kept in a distance of 4 mm from the case at a temperature of 45 °C
[2]) T_L = soldering dot temperature at a distance of 4 mm from case • AQL = 0.65 % ■ Not for new developments

Optoelectronic Devices

INDUSTRIAL Types

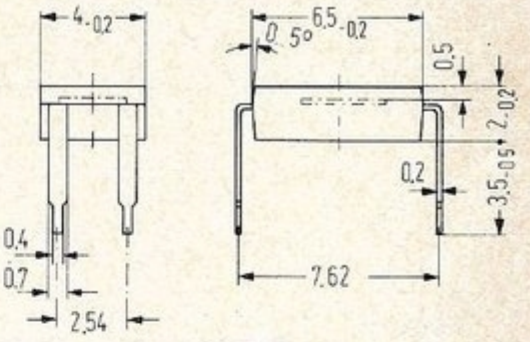


1 Weight approx. 1 g

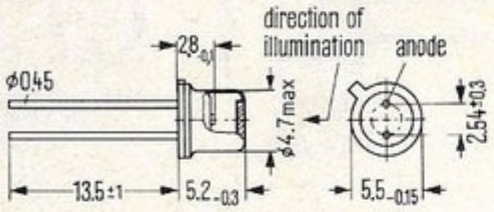


1) contact surface 3 min

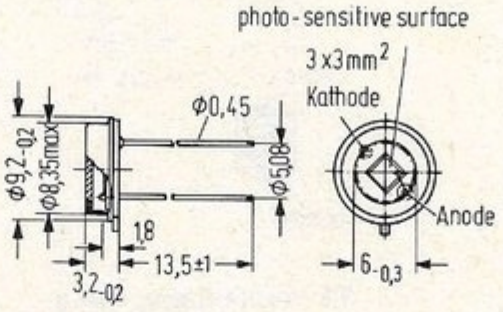
2 Weight approx. 0.2 g



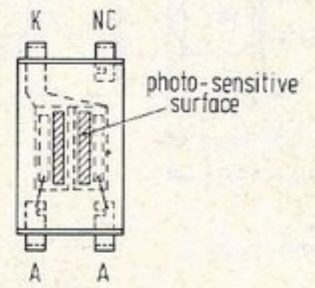
3 Weight approx. 0.2 g

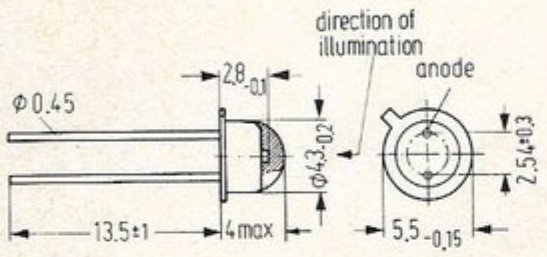


4 Weight approx. 1.0 g

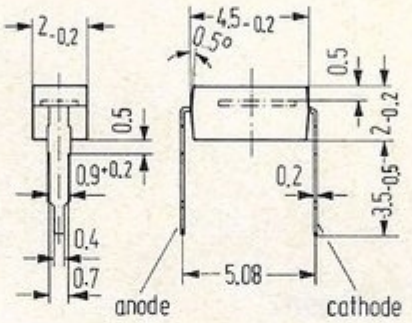


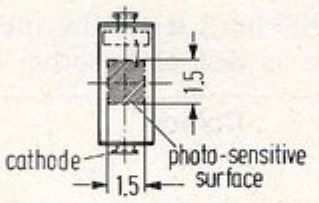
9 Weight approx. 2 g



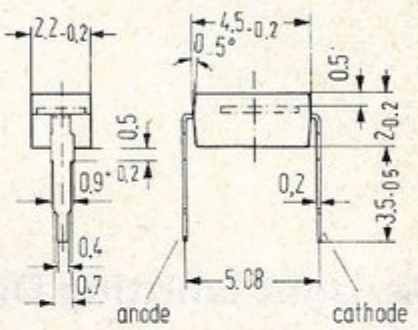


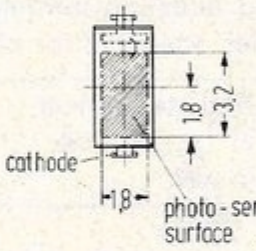
5 Weight approx. 0.5 g





10 Weight approx. 0.05 g

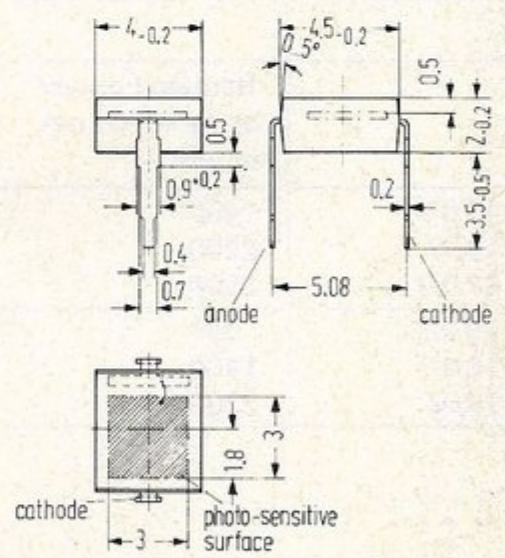




6 Weight approx. 0.05 g

Germanium Photodiodes

Type	Reverse voltage V_R (V)	Sensitivity[1] S (nA/Lux)	Dark current at T_A = 25 °C I_d (µA)	Max. power dissipation at T_U = 25 °C P_{tot} (mW)	Outline
■ **APY 12/I**	100	100 (> 40)	≦ 8,0	50	**1**
■ **APY 12/II**	100	180 (> 120)	≦ 8,0	50	**1**
■ **APY 12/III**	100	220 (> 200)	≦ 8,0	50	**1**
■ **APY 13/I**	30	100 (> 40)	≦ 8,0	50	**1**
■ **APY 13/II**	30	180 (> 120)	≦ 8,0	50	**1**
■ **APY 13/III**	30	220 (> 200)	≦ 8,0	50	**1**



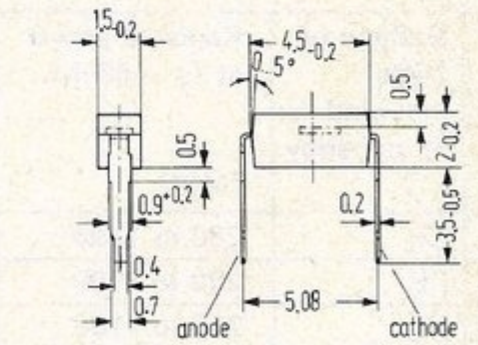
7 Weight approx. 0.1 g

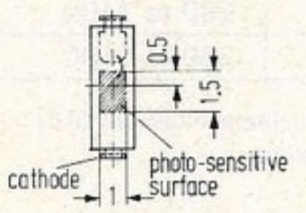
Silicon Photodiodes

Type	Reverse voltage V_R (V)	Sensitivity[2] S (nA/Lux)	Rise time of photo current t_r (ns)	Dark current at T_A = 25 °C I_d (µA)	Outline No.
BPX 48	10	32 > 15	< 150	0,1	**3**
▼ **BPX 63**	7	10	1 µs	15 pA	**5**
BPX 65	50	6 > 4	0,5 (< 1)	0,001	**4**
▼ **BPX 90**	32	40 (> 25)	–	0,005 (< 0,2)	**6**
▼ **BPX 91**	32	50 (> 35)	–	0,007 (< 0,3)	**7**
▼ **BPX 60**	32	50 (> 35)	–	0,007 (< 0,3)	**9**
▼ **BPX 92**	32	7 (> 4)	–	0,001 (< 0,1)	**8**
▼ **BPX 93**	32	8 (> 5)	–	0,0005 (< 0,05)	**10**
BPY 12	20	> 100	< 150	0,5 (< 1)	**2**

[1]) Referred to an unfiltered radiation of a tungsten filament lamp with a colour temperature of 2400 K

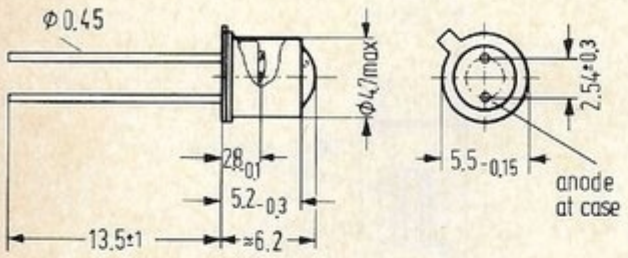
[2]) Referred to an unfiltered radiation of a tungsten filament lamp with a colour temperature of 2856 K



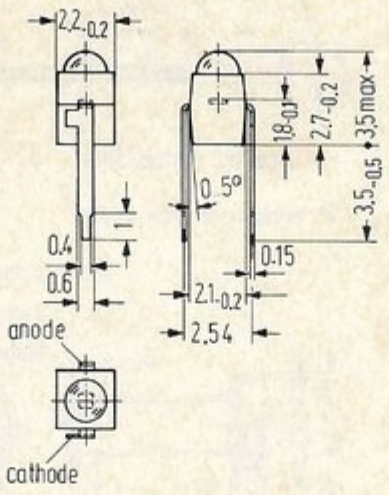


8 Weight approx. 0.03 g

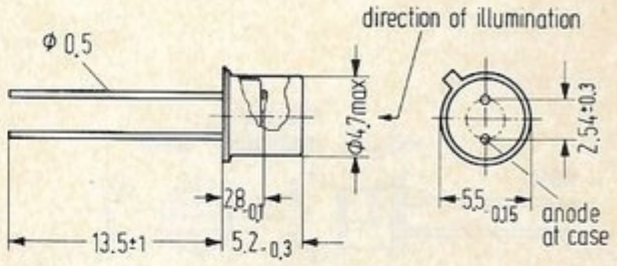
INDUSTRIAL Types



10 Weight approx. 0.35 g



11 Weight approx. 0.02 g



12 Weight approx. 0.4 g

Ga-As-Light Emitting Diodes (infrared emission)

When driven in forward direction infrared light is emitted (λ = 950 nm), it can be modulated. Application: Light barrier, scanners for perforated tapes and cards as well as for other codings.

Type	Radiated power at I_F = 50 mA in µW	Photo current at I_F = 50 mA in µA	Colour	Out-line
▼ **LD 261/I**	280[1])	100 to 200	brown	**11**
▼ **LD 261/II**	450	160 to 320	red	**11**
▼ **LD 261/III**	700	250 to 500	orange	**11**
▼ **LD 261/IV**	1100[2])	400 to 800	yellow	**11**

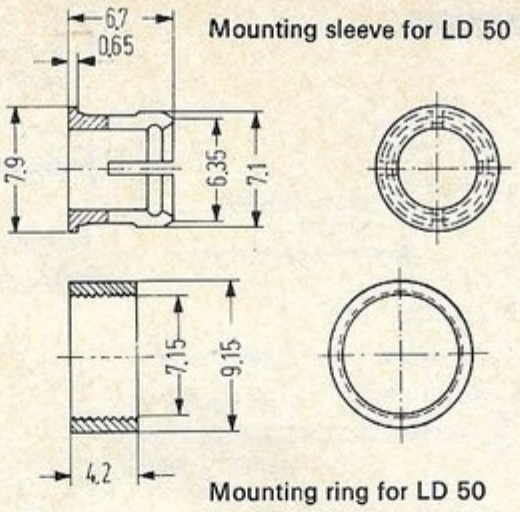
Type	Radiated power at I_F = 100 mA in µW	Photo current at I_F = 100 mA in µA	Colour	Out-line
▼ **CQY 17/IV**	1400	400 to 1000		**10**
▼ **CQY 17/V**	2200	630 to 1600	Types market	**10**
▼ **CQY 17/VI**	2500	800 to 2000	to the case	**10**
▼ **CQY 18/III**	900	250 to 630		**12**
▼ **CQY 18/IV**	1400	400 to 1000		**12**
▼ **CQY 18/V**	2200	630 to 1600		**12**

LED-Arrays (infrared emission)

Type	Number of LEDs mounted in one array [ ]	Radiated power at I_F = 50 mA [MW]	Photo current at I_F = 50 mA [µA]	switching times t_f; t_r [ns]	Out-line
▼ **LD 262**	[2]	280 to 1100	100 to 800	ca. 500	**sim. 11 (2 parts)**
▼ **LD 263**	[3]	280 to 1100	100 to 800	ca. 500	**sim. 11 (3 parts)**
▼ **LD 264**	[4]	280 to 1100	100 to 800	ca. 500	**sim. 11 (4 parts)**
▼ **LD 266**	[6]	280 to 1100	100 to 800	ca. 500	**sim. 11 (6 parts)**
▼ **LD 269**	[9]	280 to 1100	100 to 800	ca. 500	**sim. 11 (9 parts)**

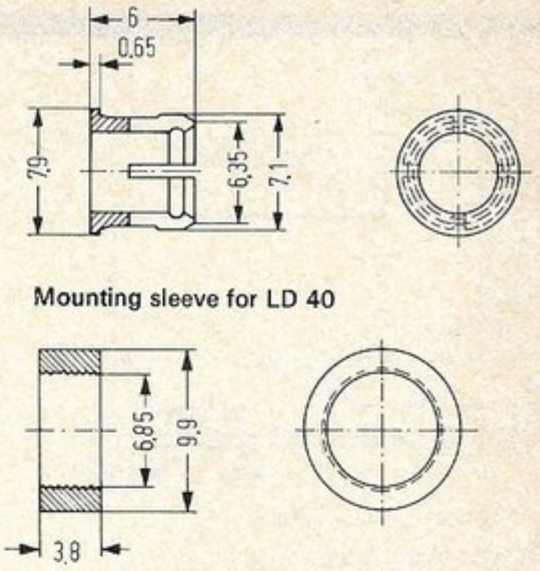
[1]) Measured with Silicon photovoltaic cell TP 61 in I_K-operation at a distance of 4 mm between transmitter and receiver
[2]) Available only on request

INDUSTRIAL Types



Mounting sleeve for LD 50

Mounting ring for LD 50



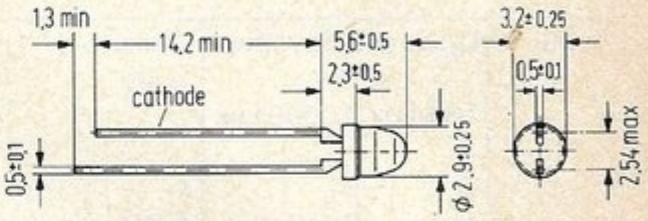
Mounting sleeve for LD 40

Mounting ring for LD 40

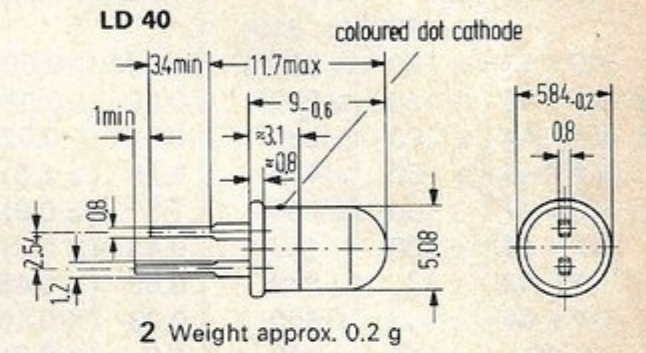
Ga-As-P-Light Emitting Diodes (red light)

Operated in forward direction red light is emitted. Applications: optical indicator and pilot lamp.

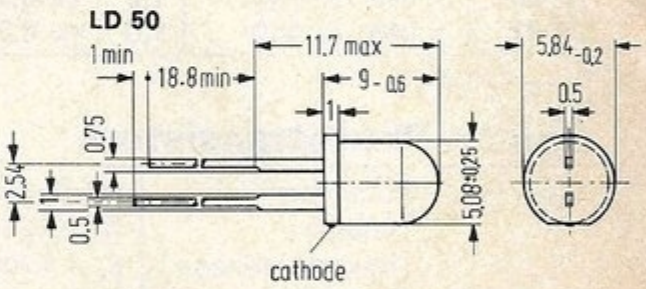
Type	Reverse voltage V_R (V)	Forward current I_F (mA)	Luminance intensity at I_F = 20 mA I_v (mcd)	Power dissipation P_{tot} (mW)	Wavelength of light emitted λ (nm) plastic case	Outline
▼ **LD 30 B**	3	50	1 (> 0.3)	100	655 red diffuse	**1**
▼ **LD 30 C**	3	50	1 (> 0.3)	100	655 clear	**1**
▼ **LD 40 I**	3	50	0.7 (> 0.3)	100	655 red diffuse	**2**
▼ **LD 40 II**	3	50	1.2 (> 0.8)	100	655 red diffuse	**2**
▼ **LD 50 I**	5	100	2 (> 1)	180	650 red diffuse	**3**
▼ **LD 50 II**	5	100	3 (> 2)	180	650 red diffuse	**3**



1 Weight approx. 0.2 g



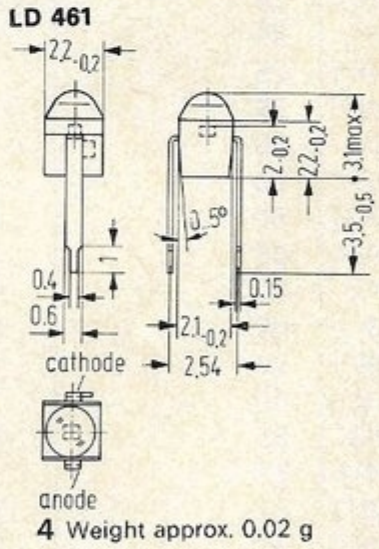
2 Weight approx. 0.2 g



3 Weight approx. 0.2 g

Ga-As-P-LED-Array with red Light Emission

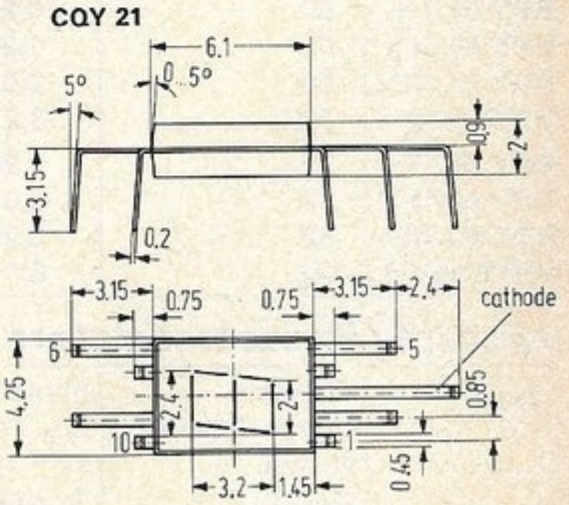
Numbers of LEDs mounted in one array [ ]	Reverse voltage V_R (V)	Forward current I_F (mA)	Luminance intensity at I_F = 20 mA I_v (mcd)	Power dissipation P_{tot} (mW)	Wavelength of light emitted λ (nm) plastic case	Outline
▼ **LD 461** [1]	3	50	1 (> 0.3)	85	650 white diff.	**4**
▼ **LD 462** [2]	3	50	1 (> 0.3)	85	650 white diff.	**4**
▼ **LD 463** [3]	3	50	1 (> 0.3)	85	650 white diff.	**4**
▼ **LD 464** [4]	3	50	1 (> 0.3)	85	650 white diff.	**4**
▼ **LD 465** [5]	3	50	1 (> 0.3)	85	650 white diff.	**4**
▼ **LD 466** [6]	3	50	1 (> 0.3)	85	650 white diff.	**4**
▼ **LD 467** [7]	3	50	1 (> 0.3)	85	650 white diff.	**4**
▼ **LD 468** [8]	3	50	1 (> 0.3)	85	650 white diff.	**4**
▼ **LD 469** [9]	3	50	1 (> 0.3)	85	650 white diff.	**4**
▼ **LD 460** [10]	3	50	1 (> 0.3)	85	650 white diff.	**4**



4 Weight approx. 0.02 g

GA-As-P-LED-Display with red Light Emission

Type	Reverse voltage V_R (V)	Forward current I_F (mA)	Luminance at I_F = 5 mA L_v (cd/m²)	Power dissipation P_{tot} (mW)	Wavelength of light emitted, λ (nm)	plastic case	Outline
▼ **CQY 21**	3[1])	10[1]) 80[2])	700 > 350[1])	160	660	red clear	**5**



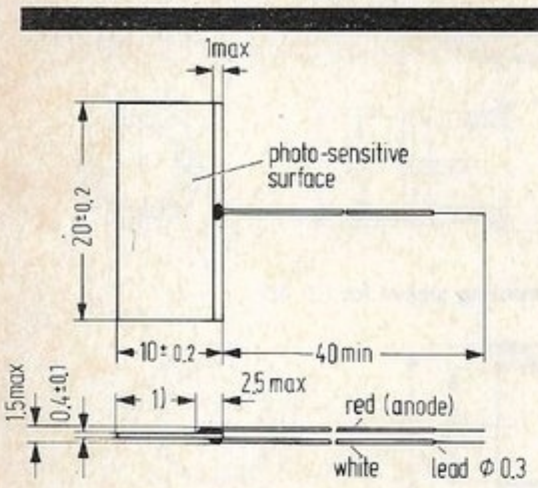
5 Weight approx. 0.5 g

Ga-P-Light Emitting Diodes with green Light Emission

Type	Reverse voltage U_R (V)	Forward current U_F=2.5 V I_F (mA)	Luminance intensity at I_F = 20 mA Φ (mcd)	Wavelength of light emitted, λ (nm)	plastic case	Outline
▼ **LD 37**	3	50	1	560	green diffuse	**1**
▼ **LD 57**	3	50	1	560	green diffuse	**3**
▼ **LD 47**[3])	3	50	1	560	green diffuse	**4**

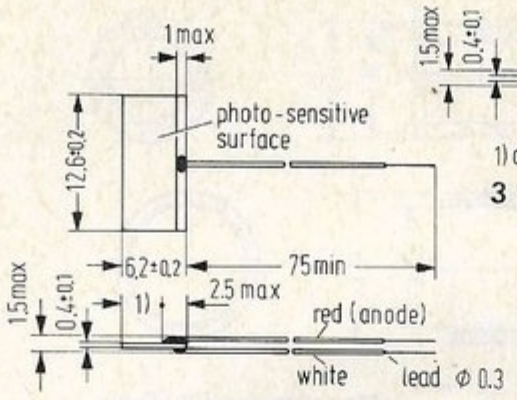
Optoelectronic Devices

INDUSTRIAL Types



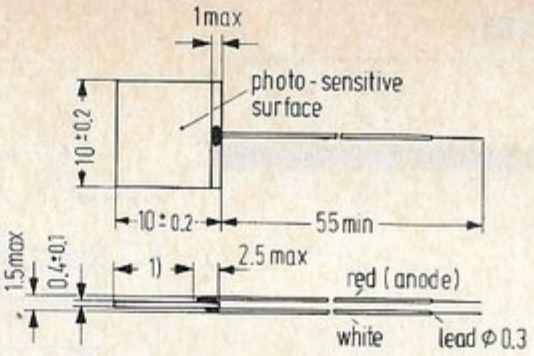
1) contact surface 7.3 min

1 Weight approx. 1.5 g



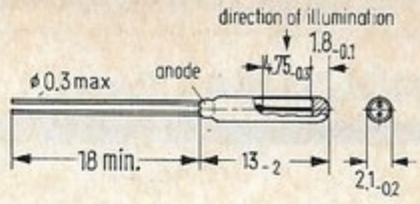
1) contact surface 3.5 min

2 Weight approx. 0.5 g

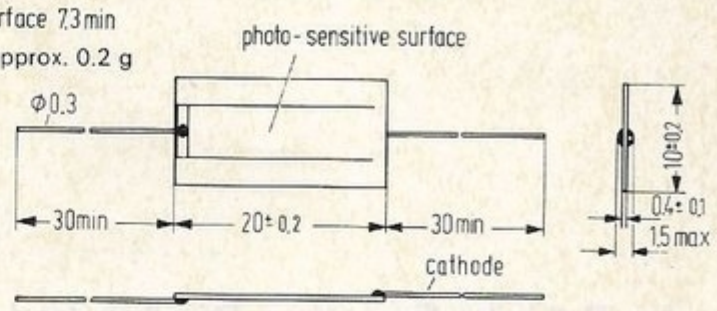


1) contact surface 7.3 min

3 Weight approx. 0.2 g



11 Weight approx. 0.2 g

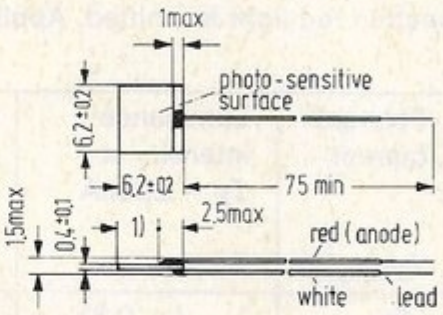


12 Weight approx. 1.5 g

Silicon Photovoltaic Cells

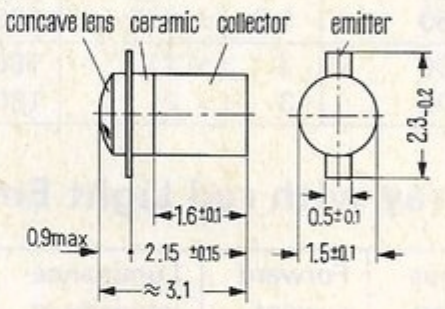
Type	Open circuit voltage at B = 100 Lux V_L (mV)	Open circuit voltage at B = 10000 Lux V_L (mV)	Sensitivity s (µA/Lux)	Reverse voltage V_R (V)	Dark current at T_{amb} = 25 °C I_d (µA)	Colour temp. of light source T (K)	Outline
BPX 79	320 (> 220)	410[1] (> 310)	0,135 (> 0,1)	1,0	0,3 (< 50)	2856	**17**
BPY 11	≧ 180	≧ 260[1]	0,004 (≧0,028)	1,0	1 (≦ 10)	2856	**9**[4]
■ **BPY 43**	≧ 150	≧ 270[1]	0,02 (≧0,015)	2,0	< 5	2856	**11**
■ **BPY 44**	≧ 200	≧ 330[1]	0,027 (≧0,02)	5,0	< 1	2856	**11**
BPY 45	≧ 150	≧ 450	1,45 (≧ 1,0)	1,0	–	2856	**12**
BPY 47	≧ 150	≧ 450	1,3 (≧ 0,9)	1,0	–	2856	**1**
BPY 48	≧ 150	≧ 450	0,43 (≧ 0,3)	1,0	–	2856	**2**
BPY 63	≧ 150	≧ 450	0,65 (≧ 0,45)	1,0	–	2856	**3**
BPY 64	≧ 150	≧ 450	0,23 (≧ 0,16)	1,0	–	2856	**4**
TP 60	≧ 140	≧ 440	1,0 (≧ 0,7)	1,0	–	2856	**14**
TP 61	≧ 140	≧ 440	1,0 (≧ 0,7)	1,0	–	2856	**6**

[1]) E_v = 1000 lx

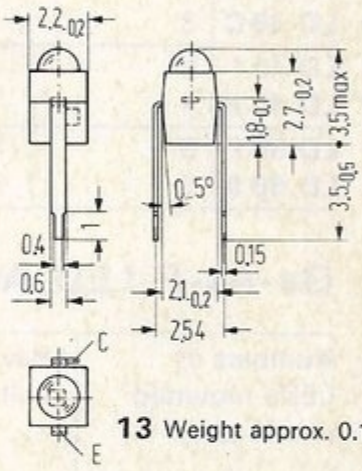


1) contact surface 3.5 min

4 Weight approx. 0.2 g



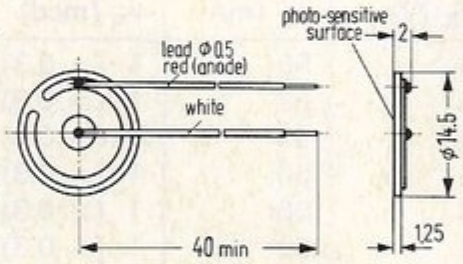
5 Weight approx. 1 g



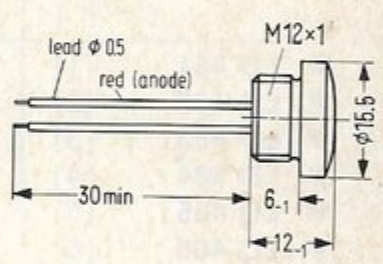
13 Weight approx. 0.1 g

Silicon Phototransistors

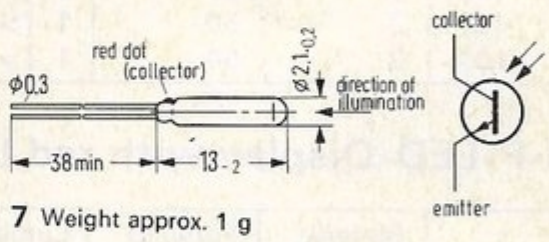
Type	Collector-Emitter-Reverse-voltage V_{CE} (V)	Photo current V_{CE} = 5 V, E_v = 1000 Lux I_C (mA)	Collector-Emitter-cutoff current V_{CE} = 32 V, E_v = 0 Lux; I_{CEO} (nA)	Outline
BPX 38/I[2])	25	0,4 to 0,8	35 (< 500)[3])	**8**
BPX 38/II[2])	25	0,63 to 1,25	35 (< 500)[3])	**8**
BPX 38/III[2])	25	1,0 to 2,0	35 (< 500)[3])	**8**
BPX 38/IV[2])	25	1,6 to 3,2	35 (< 500)[3])	**8**
BPX 43/I[2])	50	1,6 to 3,2	5 (< 200)	**10**
BPX 43/II[2])	50	2,5 to 5,0	5 (< 200)	**10**
BPX 43/III[2])	50	4,0 to 8,0	5 (< 200)	**10**
BPX 43/IV[2])	50	6,3 to 12,5	5 (< 200)	**10**
BPX 62/I[1])	50	0,4 to 0,8	10 (< 100)	**5**
BPX 62/II[1])	50	0,63 to 1,25	10 (< 100)	**5**
BPX 62/III[1])	50	1,0 to 2,0	10 (< 100)	**5**
BPX 62/IV[1])	50	1,6 to 3,2	10 (< 100)	**5**
BPX 81/I[1])	32	0,63 to 1,25	25 (< 200)	**13**
BPX 81/II[1])	32	1,0 to 2,0	25 (< 200)	**13**
BPX 81/III[1])	32	1,6 to 3,2	25 (< 200)	**13**
BPX 81/IV[1])	32	2,5 to 5,0	25 (< 200)	**13**
BPY 61/I[1])	50	0,8 to 1,6	5 (≦ 100)	**7**
BPY 61/II[1])	50	1,25 to 2,5	5 (≦ 100)	**7**
BPY 61/III[1])	50	2,0 to 4,0	5 (≦ 100)	**7**
BPY61/IV	50	3,2 to 6,3	5 (≦ 100)	**7**
BPY 62/I[2])	32	1,25 to 2,5	5 (< 100)	**10**
BPY 62/II[2])	32	2,0 to 4,0	5 (< 100)	**10**
BPY 62/III[2])	32	3,2 to 6,3	5 (< 100)	**10**
BPY62/IV[2])	32	5,0 to 10	5 (< 100)	**10**



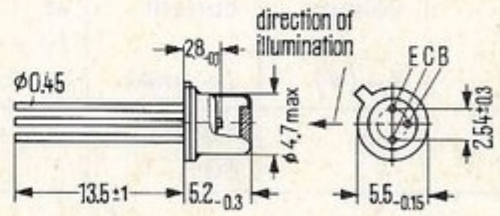
6 Weight approx. 1 g



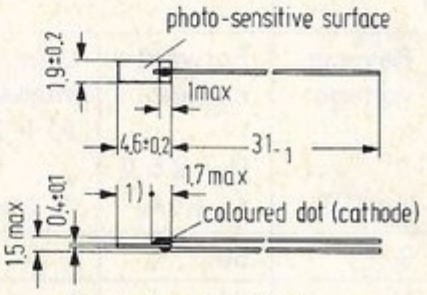
14 Weight approx. 20 g



7 Weight approx. 1 g

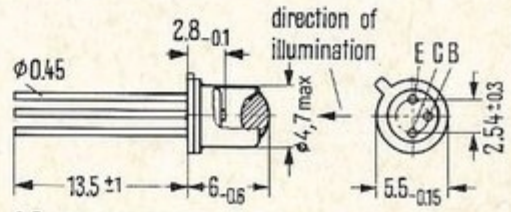


8 Weight approx. 1.5 g



1) contact surface 2.7 min

9 Weight approx. 0.2 g



10 Weight approx. 1.5 g

Multiple Phototransistors

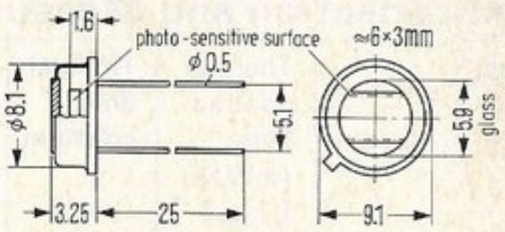
Type	Collector-Emitter-Reverse voltage V_{CE} (V)	Photo current V_{CE} = 5 V, E_v = 1000 Lux I_C (mA)	Collector-Emitter-cutoff current V_{CE} = 25 V, E_v=0 Lux; I_{CEO} (nA)	Outline
▼ **BPX 77**	40	0,3	100	**15**
▼ **BPX 78**	40	0,3	100	**16**

▼ New Type ■ Not for new developments [1]) without base connection [2]) with base connection
[3]) at 25 V

INDUSTRIE Types

Photoresistors

Type	Operating voltage V_a (V)	Dark resistance R_o (Ω)	Light resistance R_{1000} (Ω)	Outline
RPY 60	100	≥ $1 \cdot 10^8$	300 to 800	**1**
RPY 61	50	≥ $1 \cdot 10^6$	300 to 800	**1**
RPY 62	100	≥ $1 \cdot 10^8$	3500	**1**
RPY 63	50	≥ $1 \cdot 10^6$	300 to 800	**1**
RPY 64	100	≥ $1 \cdot 10^8$	3500	**1**

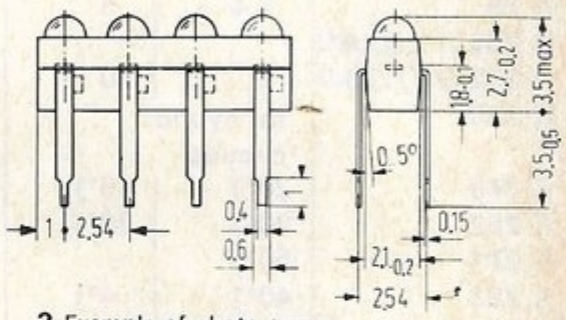


1 Weight approx. 2 g

Phototransistor Arrays

Type [ ] Number of photo-transistors in each array	Collector-Emitter-Reverse voltage V_{CE} (V)	Photo current V_{CE} = 5 V; E_V = 1000 Lux I_C (mA)[1]	Collector-Emitter cut off current V_{CE} = 32 V; E_V = 0 Lux I_{CE} (mA)	Outline	
BPX 82 [2]	32	0,6 to 2,5	< 200	**2**	similar
BPX 83 [3]	32	0,6 to 2,5	< 200	**2**	
BPX 84 [4]	32	0,63 to 5,0	< 200	**2**	
BPX 85 [5]	32	0,63 to 5,0	< 200	**2**	
BPX 86 [6]	32	0,6 to 2,5	< 200	**2**	
BPX 87 [7]	32	0,63 to 5,0	< 200	**2**	
BPX 88 [8]	32	0,63 to 5,0	< 200	**2**	
BPX 89 [9]	32	0,6 to 2,5	< 200	**2**	

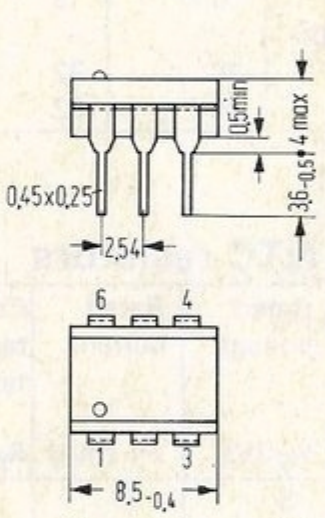
[1]) Smaller T_C-tolerances within an array are available on request



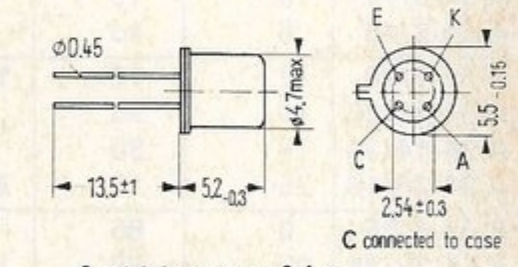
2 Example of photo arrays (e.g. with 4 phototransistors BPX 84)

Optoelectronic Couplers

Type	Current transmission ratio in % I_C/I_F	Ga-As Light emitting diode: Forward current I_F (mA)	Ga-As Light emitting diode: Reverse voltage V_{BR} (V)	Phototransistor: Collector current I_C (mA)	Phototransistor: Collector voltage V_{CEO} (V)	Gain	Outline
CNY 17/0	25– 50	60	3	150	32	–	**3**
CNY 17/I	40– 80	60	3	150	32	> 100	**3**
CNY 17/II	63–125	60	3	150	32	> 100	**3**
CNY 17/III	100–200	60	3	150	32	> 100	**3**
CNY 17/IV	160–320	60	3	150	32	> 100	**3**
CNY 18/I	10– 20	60	3	150	32	> 100	**4**
CNY 18/II	16– 32	60	3	150	32	> 100	**4**
CNY 18/III	25– 50	60	3	150	32	> 100	**4**
CNY 18/IV	40– 80	60	3	150	32	> 100	**4**



3 Weight approx. 0.7 g

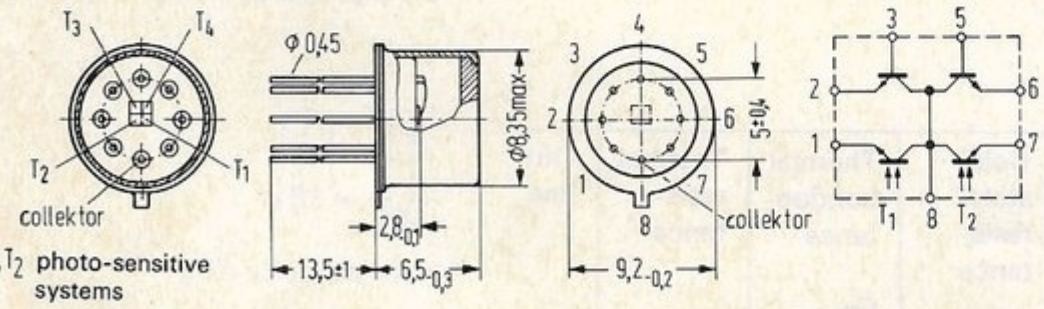


C connected to case

4 Weight approx. 0.4 g

Outline and Circuits

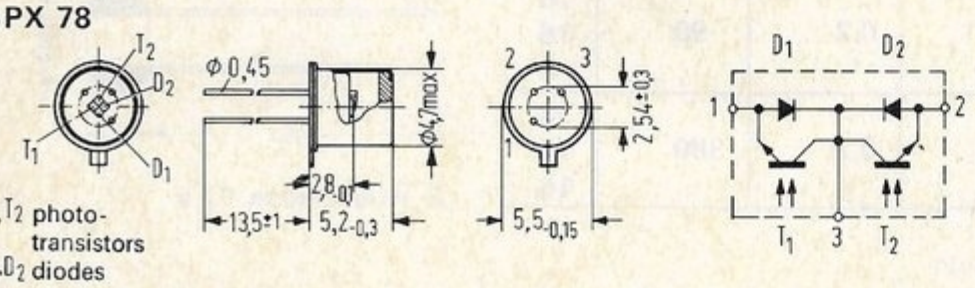
BPX 77



T_1, T_2 photo-sensitive systems

15 Weight approx. 2 g

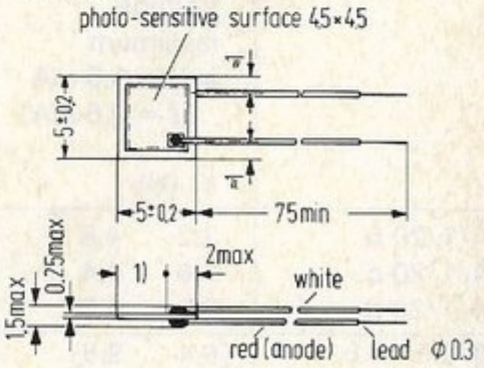
BPX 78



T_1, T_2 photo-transistors
D_1, D_2 diodes

16 Weight approx. 1 g

BPX 79



1) contact-surface

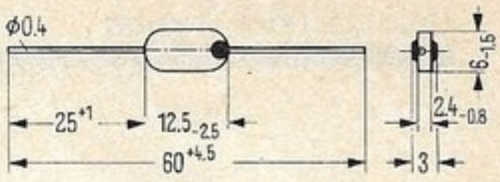
17 Weight approx. 0.2 g

NTC Resistors (Thermistors)

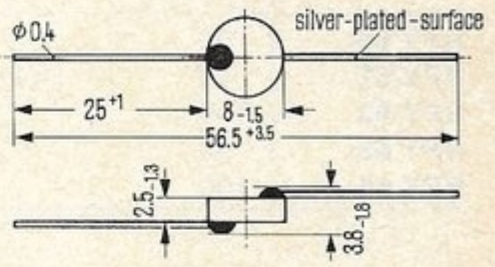
INDUSTRIAL Types

Compensation and Measuring Thermistors

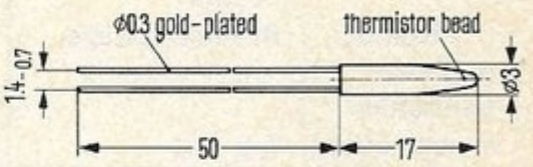
Type	Thermal conductivity (mW/K) $[G_{th\,G}]$ $G_{th\,A}$	Thermal time constant τ_{th} (s)	B-value[2]) IK/I	Max. permissible temp. T °C)	Cold-state resistance T_{amb} = 20 °C R_{20} (kΩ)	Cold-state resistance T_{amb} = 25 °C R_{25} (kΩ)	Outline
K 11	8	30	2580 to 4550	+ 120	0,01 to 500	0,0086-390	**1**
K 15	8	30	2580 to 4250	+ 150	0,004 to 5	0,0035-3,9	**2**
K 17	0,8	3	3420 to 3950	+ 250	2,5 to 100	2,0 to 80	**3**
K 19	0,14	0,4	3440	+ 200	12	10	**4**
K 22	1	30	3530 to 4560	+ 200	1 to 250	0,82 to 195	**5**
K 29	0,4	5	3430	+ 250	12	10	**6**
K 220 S 1/2,5kΩ	–	–	3530	+ 250	2,5	–	**7**
K 222 S 1/2,5kΩ	2	20	3530	+ 150	2,5	2,1	**8**
K 228	for hybrid circuits		3560 to 4300	+ 100	–	4,7 to 100	**19**
K 243	20[1])	45[1])	–	+ 100	R_{-30} = 9,4	–	**9**
K 252	30[1])	20[1])	3400 to 4250	+ 120	0,5 to 40	0,41 to 31	**10**
K 274	50[3])	–	3930	+ 100	R_{60} = 1,25	–	**11**
K 283	40[1])	4[1])	3950	+ 130	R_{60} = 1,25	–	**12**
K 292	0,4	5	3950	+ 350	100	80	**6**
K 352	[20]	–	2800 to 4600	+ 125	0,04 to 150	0,033 to 120	**20**
M 81	0,7	5	3430	+ 200	10	8	**13**
M 812	0,7	5	3950	+ 350	100	80	**13**
M 820 S1/80Ω	–	–	3530	+ 150	–	0,88	**14**
M 831	20	22	3560 to 4050	+ 85	–	1 to 10	**18**
M 832	20	22	4200 to 4560	+ 160	40 to 250	–	**18**



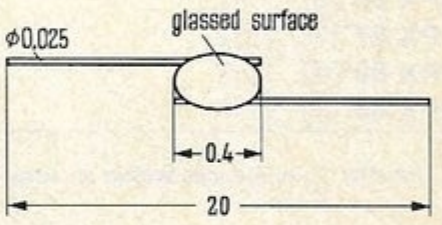
1 Weight approx. 0.4 g



2 Weight approx. 0.5 g



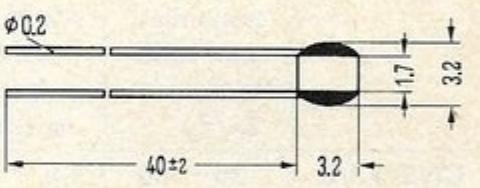
3 Weight approx. 0.25 g



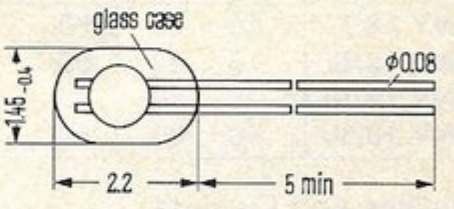
4 Weight approx. 0.3 mg

Starting NTC resistors

Type	Rated voltage V_N (V)	Rated current I_N (mA)	Cold-state resistance R_{20} (kΩ)	Thermal capacitance C_{th} (mWs/°C)	Thermal conductance $G_{th\,U}$ (mW/°C)	Minimum permissible hot-state resistance R_{min} (Ω)	Voltage maximum V_1 (V)	Outline
A 34-2/30	2	30	5	0,5	0,4	40	4	**16**
A 34-4/20	4	20	15	0,5	0,4	150	8	**16**
A 34-5/15	5	15	40	0,5	0,4	300	13	**16**
A 34-6/40	6	40	6	10	1,5	120	9	**16**
A 34-7/10	7	10	100	0,5	0,4	500	18	**16**
A 34-10/25	10	25	40	7	1,2	350	21	**16**
A 34-14/30	14	30	40	32	2,3	350	28	**16**
A 34-25/18	25	18	200	30	2,5	1000	60	**16**
A 37-9/85	9	85	10	240	4	120	20	**15**
A 37-22/38	22	38	100	240	4	600	58	**15**



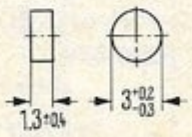
5 Weight approx. 0.2 g



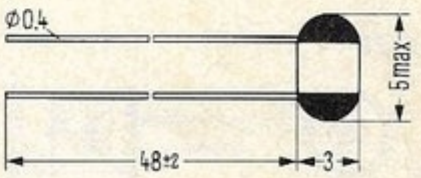
6 Weight approx. 0.6 mg

Control NTC resistors

Type	Voltage maximum at I = 1.5 mA (I = 0.6 mA) V_1 (V)		Current at V_1 I_1 (mA)	Rated current I_N (mA)	Cold-state resistance R_{20} (kΩ)	Thermal conductance $G_{th\,A}$ (mW/K)	Thermal resistance R_w (Ω)	Outline
R 51-4/1/20 b	3,2	4,8						**16**
R 51-4/1/20 c	3,6	4,4	1	20	10	0,2	90	**16**
R 51-4/1/20 d	3,8	4,2						**16**
R 51-8/0,5/10 b	(6,4	9,6)						**16**
R 51-8/0,5/10 c	(7,2	8,8)	0,5	10	40	0,2	360	**16**
R 51-8/0,5/10 d	(7,6	8,4)						**16**

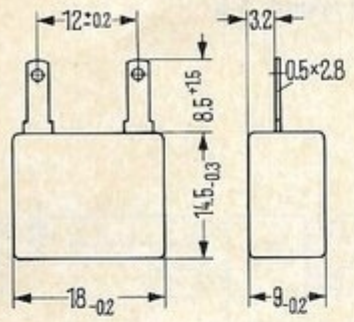


7 Weight approx. 0.1 g

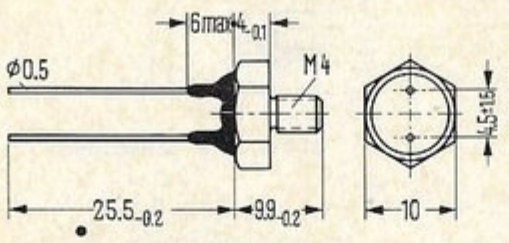


8 Weight approx. 0.2 g

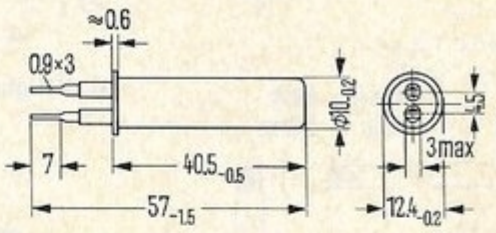
[1]) Mounted on a chassis $G_{th\,G}$ [2]) Measured at 20 °C and 100 °C [3]) $G_{th\,Fl}$



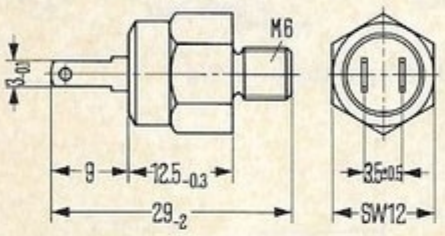
9 Weight approx. 4.5 g



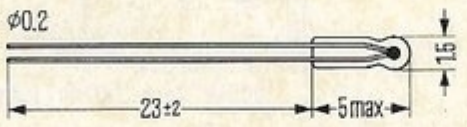
10 Weight approx. 1.5 g



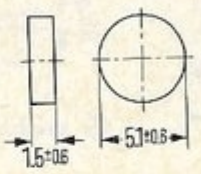
11 Weight approx. 10 g



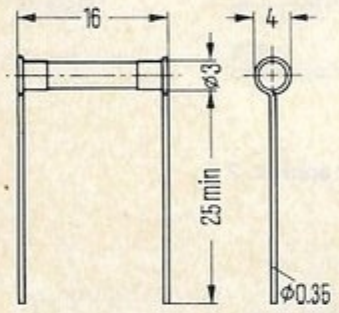
12 Weight approx. 10 g



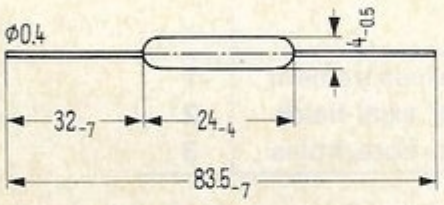
13 Weight approx. 0.4 g



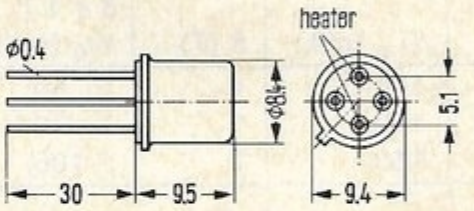
14 Weight approx. 0.1 g



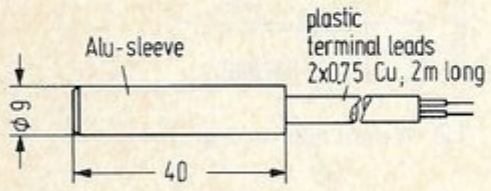
15 Weight approx. 0.5 g



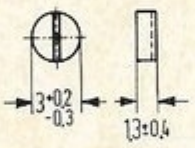
16 Weight approx. 0.6 g



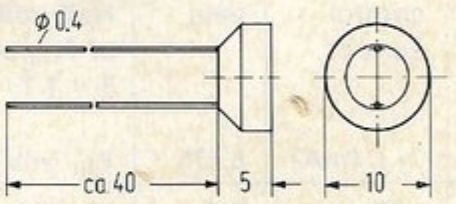
17 Weight approx. 3 g



18 Weight approx. 120 g



19 Weight approx. 0.1 g



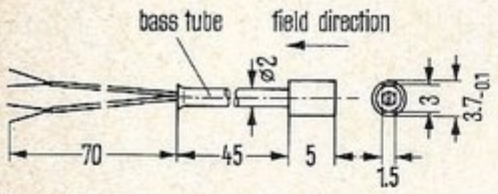
20 Weight approx. 0.7 g

Heater-type thermistors

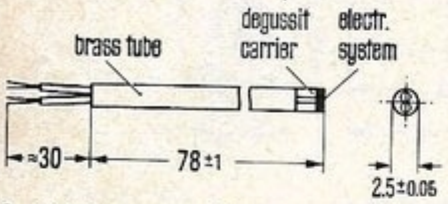
Type	Cold-state resistance R_{20} (kΩ)	Hot-state resistance R_w (Ω)	Heating current at R_w I_{Hz} (mA)	Heater resistance R_{Hz} (Ω)	Thermal cooling time constant τ_{th} (s)	Insulation resistance between heater and thermistor R_{is} (Ω)	Capacitance between heater and thermistor $C_{Hz\text{-}HL}$ (pF)	Minimum permissible hot-state resistance R_{min} (Ω)	Outline
F 74-35/15 x	5	50	22 (< 25)	400	15	> 10^8	–	40	**17**
F 74-51/25 x	100	500	22 (< 25)	400	15	> 10^8	–	350	**17**
F 75-34/14 u	4	40	28	100	3	> 10^8	approx. 2	35	**17**
F 75-34/14 x	4	40	16	400	3	> 10^8	approx. 2	35	**17**
F 75-41/21 u	10	100	28	100	3	> 10^8	–	80	**17**
F 75-41/21 x	10	100	15	400	3	> 10^8	–	80	**17**
F 75-46/23 u	60	300	28	100	3	> 10^8	–	250	**17**
F 75-46/23 x	60	300	15	400	3	> 10^8	–	250	**17**
F 75-54/32 u	400	2000	28	100	3	> 10^8	–	1500	**17**
F 75-54/32 x	400	2000	12	400	3	> 10^8	–	1500	**17**
F 75-54/32 s[3])	400	2000	28	100	3	> 10^8	–	1500	**17**

[3]) Tolerance of R_{20} ±30%

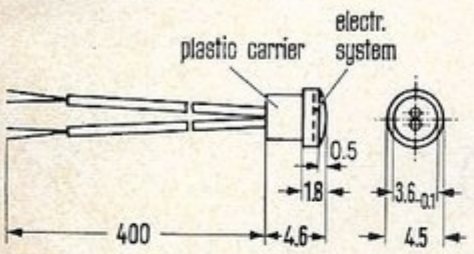
INDUSTRIAL Types



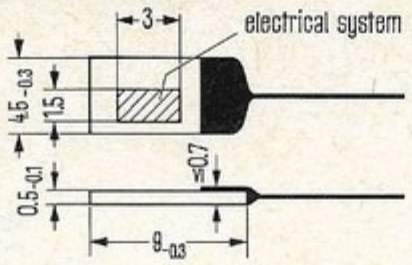
1 Weight approx. 1.3 g



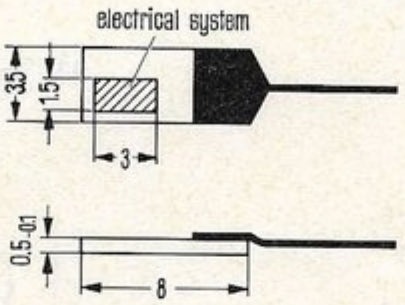
2 Weight approx. 1.3 g



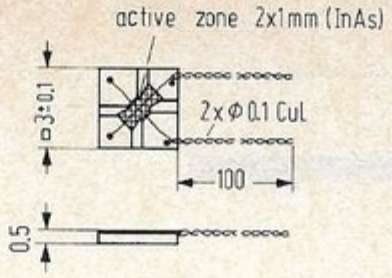
3 Weight approx. 0.6 g



4 Weight approx. 0.1 g



5 Weight approx. 0.1 g



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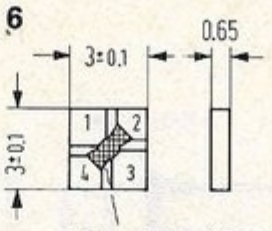

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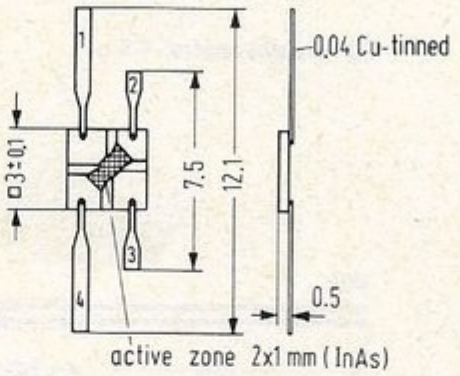

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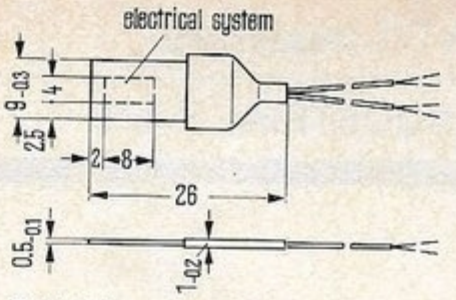
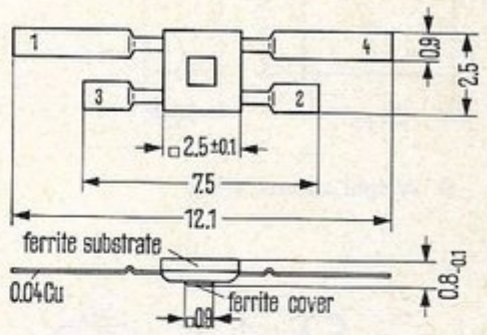
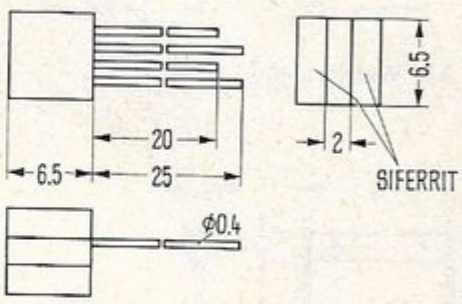


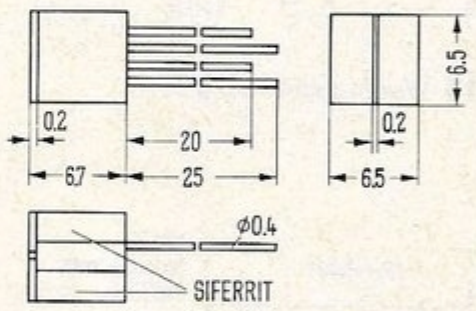
9 Weight approx. 1 g



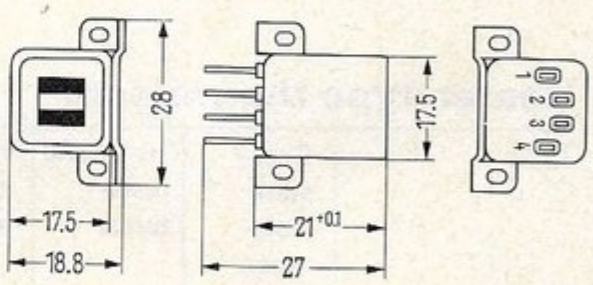
10 Weight approx. 0.2 g



11 Weight approx. 2 g



12 Weight approx. 2 g



13 Weight approx. 21 g

Axial Field Probes

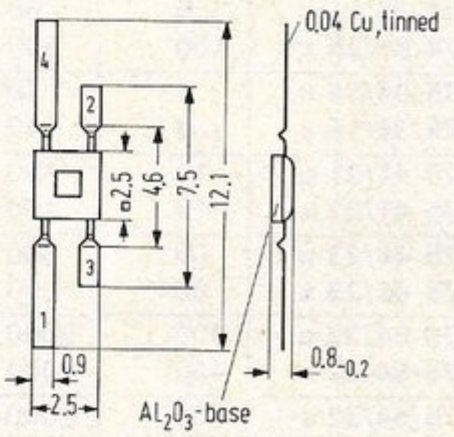
Type	Rated control current I_{1n} (mA)	Control field B (T)	Open-circuit Hall voltage at I_{1n} and $B = 1$ T V_{20} (mV)	Open-circuit sensitivity ref. to $B=1$ T K_{BO}- (V/AT)	Application	Outline
SBV 552	100	1	≧ 50	≧ 0.5	Measurement of axial fields in bore-holes	**1**
RHY 10	100	1	≧ 70	≧ 0.7		**2**
RHY 11	150	1	≧ 105	≧ 0.7		**3**

Signal Probes for Control and Regulation Purposes

Type	Rated control current I_{1n} (mA)	Control field B (T)	Open-circuit Hall-voltage at I_{1n} and $B = 1$ T V_{20} (mV)	Open-circuit sensitivity ref. to $B=1$ T K_{BO}- (V/AT)	Application	Outline
▼ **SBV 570**	25	0.2	≧ 250	–	Signal probes with high and medium sensitivity	**14**
SV 110/II	15	1	≧ 1000	ca. 100		**4**
SV 110/III	25	1	≧ 800	ca. 50		**4**
SV 130/I	35	1	≧ 1700	ca. 100		**9**
SV 130/II	50	1	≧ 1300	ca. 50		**9**
SV 130/III	80	1	≧ 1000	ca. 25		**9**
▼ **SV 200/I**	35	1	≧ 100	≧ 3		**6**
▼ **SV 200/II**	30	1	≧ 150	≧ 6		**7**
▼ **SV 200/III**	25	1	≧ 200	≧ 10		**8**
SV 210	60	1	≧ 300	≧ 6		**5**
SV 230 S	100	1	≧ 650	≧ 6.5		**9**

Magnetogram Probes and Ferrite Hall-effect devices for Contactless Signaling

Type	Rated control current I_{1n} (mA)	Control field B (T)	Open-circuit voltage at I_{1n} V_{20} (mV)	Application	Outline
SBV 566	35	[2]	≧ 400	Contactless signal generator	**10**
RHY 15	50	[4]	≧ 120	Contactless signal generator	**11**
RHY 15 R[3]	50	[4]	≧ 120	Contactless signal generator	**11**
RHY 20	50	[4]	≧ 120	Magnetic pick up	**12**
KSM 2	50	[4]	≧ 120	Contactless signal generator	**13**



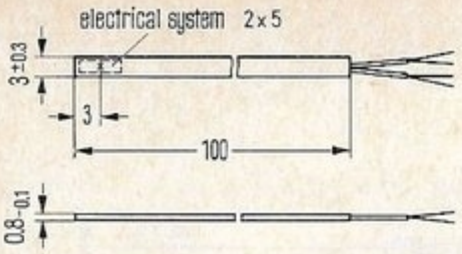
14

1T = Tesla = 10^4 Gauss ▼ New Type

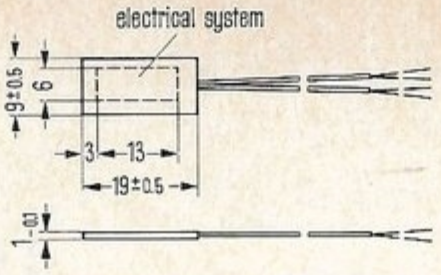
[2]) At a strap flux of $2 \cdot 10^{-7}$ Wb (Wb = Weber)

[3]) Remanent operation, Remanent Hall-voltage ≧ 40 mV

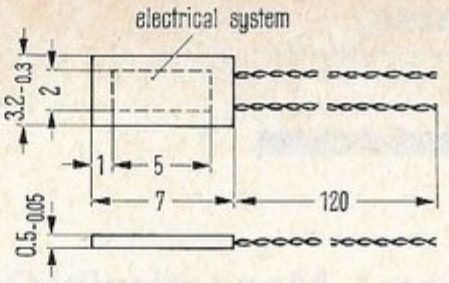
[4]) At probe flux of $2 \cdot 10^{-7}$ Wb (Wb = Weber)



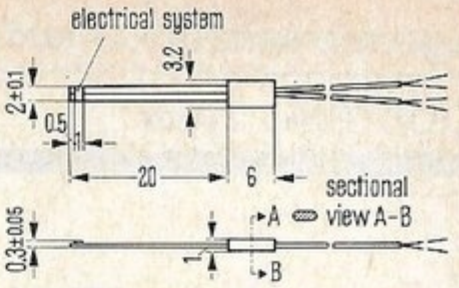
1 Weight approx. 0.4 g



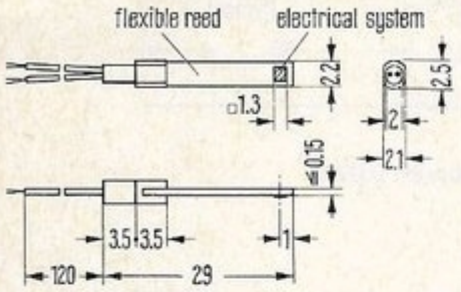
2 Weight approx. 0.7 g



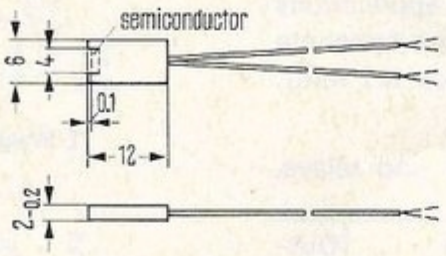
3 Weight approx. 0.3 g



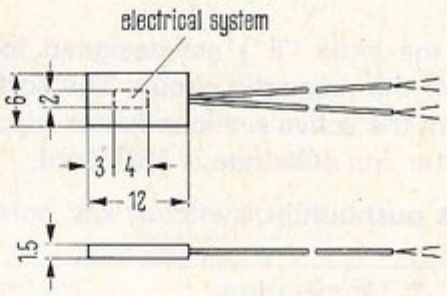
4 Weight approx. 0.2 g



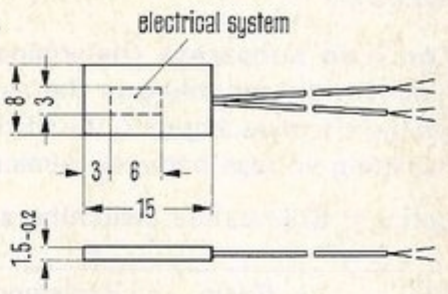
5 Weight approx. 0.3 g



6 Weight approx. 0.6 g



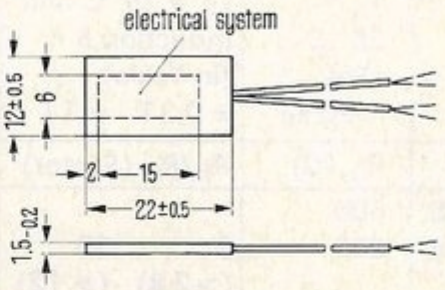
7 Weight approx. 0.4 g



8 Weight approx. 0.5 g

Hall-Effect Probes

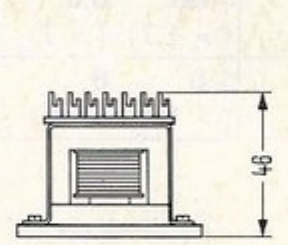
Type	Rated control current I_{1n} (mA)	Control field B (T)	Open-circuit Hall voltage at I_{1n} and $B = 1\,T$ V_{20} (mV)	Open-circuit sensitivity ref. at $B=1T$ K_{BO} (V/AT)	Resistive termination for linear matching R_{LL} (Ω)	Outline
FA 22 e	150	1	≧ 120	≧ 0.8	ca. 8	**1**
FA 24	400	1	≧ 300	≧ 0.75	ca. 7	**2**
EA 218	100	1	≧ 85	≧ 0.85	ca. 5 to 20	**3**
SBV 525	100	1	≧ 97	≧ 0.97	ca. 3 to 20	**4**
RHY 19	80	1	≧ 120	≧ 1.5	≧ 100	**5**
TC 21	150	1	≧ 90	≧ 0.6	ca. 6	**6**



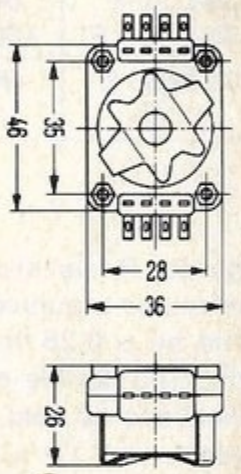
9 Weight approx. 1.3 g

Hall-Effect Probes for high precision Field Measurements

Type	Rated control current I_{1n} (mA)	Control field B (T)	Open-circuit Hall voltage at I_{1n} and $B = 1\,T$ V_{20} (mV)	Open-circuit sensitivity ref. at $B=1T$ K_{BO} (V/AT)	Resistive termination for linear matching R_{LL} (Ω)	Outline
FC 32	100	1	≧ 130	1.3	ca. 13	**7**
FC 33	100	1	≧ 145	1.45	ca. 15	**8**
FC 34	200	1	≧ 290	1.45	ca. 25	**9**
▼ **SBV 579**	100	–	≧ 110	≧ 1.1	ca. 250	**15**
▼ **SBV 595**	10	1	≧ 300	≧ 30	∞	**16**



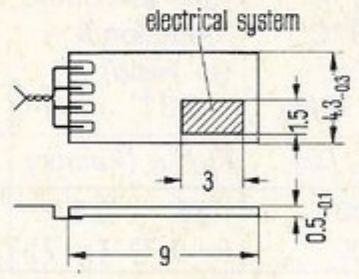
10 Weight approx. 170 g



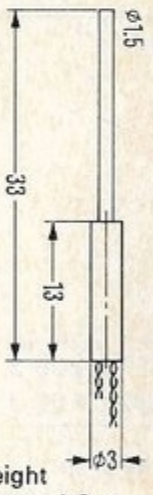
11 Weight approx. 75 g

Hall Multipliers and Hall Modulators

Type	Rated control current I_{1n} (mA)	Control field I_F N (AW)	Open-circuit Hall voltage at I_{1n} and $B = 1\,T$ V_{20} (mV)	Resistive termination for linear matching R_{LL} (Ω)	Application	Outline
MB 26/EI38	400	70	≧ 160	ca. 12	Hallmultiplicator in MU metal core	**10**
RMY 10	500	70	≧ 200	ca. 25	Hallmultiplicator in Ferrite potcore	**11**



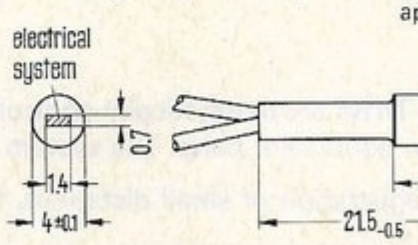
12 Weight approx. 0.4 g



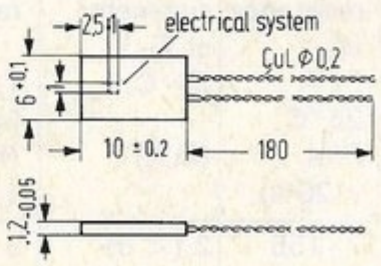
14 Weight approx. 1.2 g

Hall-Effect Probes for low Temperatures (—269° C to +80° C)

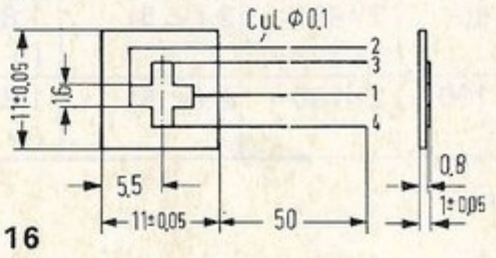
Type	Rated control current I_{1n} (mA)	Control field B (T)	Open-circuit Hall voltage at I_{1n} and $B = 1\,T$ V_{20} (mV)	Open-circuit sensitivity ref. $B=0.5T$ K_{BO} (V/AT)	Application	Outline
RHY 17	60	1	≧ 300	6[1])	Probe for magnetic field measurements	**12**
RHY 18	35	1	≧ 150	6[1])	Axial probe for measurement of magnetic fields	**13**
RHY 18 S 1	10	1	≧ 25	3[1])	Axial probe especially for very small bore-holes	**14**



13 Weight approx. 1.5 g



15



16

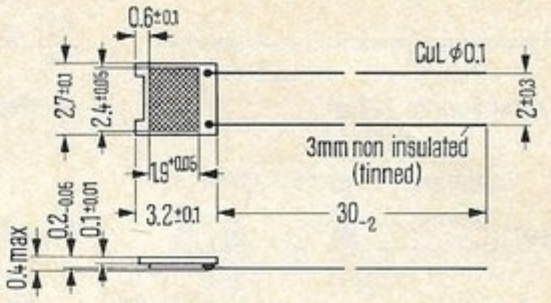
▼ New type

Magnetoresistors (Fieldplates), Magnetically Dependent Resistors

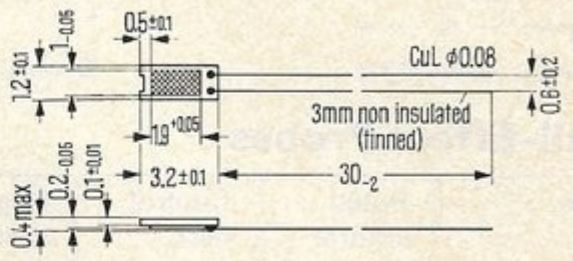
MRs on iron substrate (determined by the letter "E") are designed for applications which allow rigid mounting in the air gap of the magnetic circuit. The softiron substrate reduces the effective airgap to the thickness of the active semiconductor (approx. 0.1 mm). The insulating voltage between semiconductor and substrate is 100 Vmni.

Applications: Contactless switching such as pushbutton, switches key bords and relays.

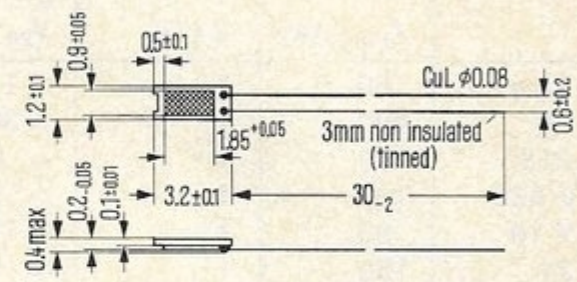
Type "E"	Basic resistance at T_A = 25 °C (Tol. ± 20%)	Resistance ratio at T_A = 25 °C and Induction B = (in Tesla) ± 0.3T ± 1T	Temperature coefficient at T_A = 25 °C and Induction B = (in Tesla) OT ±0.3T ± 1T	Thermal conductivity (mounted metal side down)	Out-line
	R_O (Ω)	R_B/R_O (Factor)	T_{K25} (%/°C)	$G_{th\,G}$ (mW/K)	
FP 17 D 500 E	500			15	**1**
FP 30 D 250 E	250	3 15 (> 2.8) (> 12)	−1.8 −2.7 −2.9	10	**2**
FP 17 L 200 E	200			15	**1**
FP 30 L 50 E	50	1.85 8.5 (> 1.7) (> 7)	−0.16 −.38 −.54	6	**3**
FP 30 L 100 E	100			10	**2**
FP 30 N 60 E	60	1.6 6 (> 1.4) (> 5)	+0.02 −0.13 −0.25	10	**2**



1 Weight approx. 0.02 g



2 Weight approx. 0.017 g



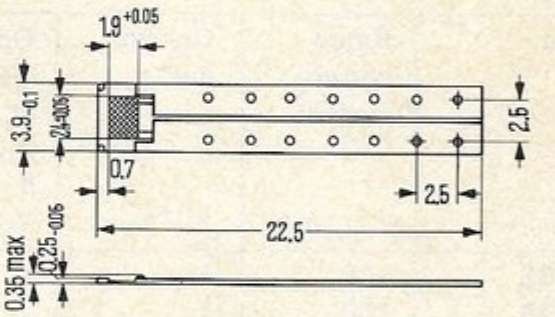
3 Weight approx. 0.017 g

Magneto Resistors on expoxy substrates (designated "J"), are non-magnetic and can therefore be mounted freely suspended in the air gap of a magnetic circuit. The air gap should be ≧ 0.25 mm. A gap of ≧ 0.20 mm is permissible if the field plate is mounted rigidly. The flexible epoxy substrate is not be bent in the area of the active element. For applications as field measuring probe a calibration curve up to 1 T (T = Tesla) can be supplied.

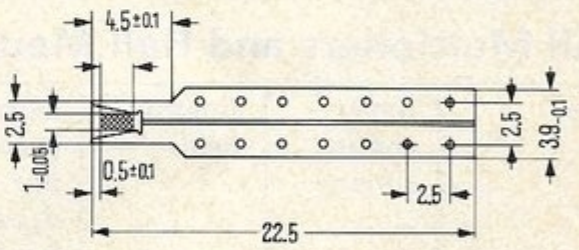
Applications: Measurement of magnetic fields and distances.

Type "J"	Basic resistance at T_A = 25 °C (Tol. ± 20%)	Resistance ratio at T_A = 25 °C and Induction B = (in Tesla) ± 0.3T ± 1T	Temperature coefficient T_A = 25 °C and Induction B = (in Tesla) OT ±0.3T ±1T	Thermal conductivity (mounted metal side down)	Out-line
	R_O (Ω)	R_B/R_O (Factor)	T_{K25} (%/°C)	$G_{th\,G}$ (mW/K)	
FP 17 L 200 J	200	1.85 8.5 (> 1.7) (> 7)	−0.16 −0.38 − 0.54	4.5/1.5[1])	**4**
FP 30 L 100 J	100			3/1[1])	**5**

[1]) free in air



4 Weight approx. 0.03 g

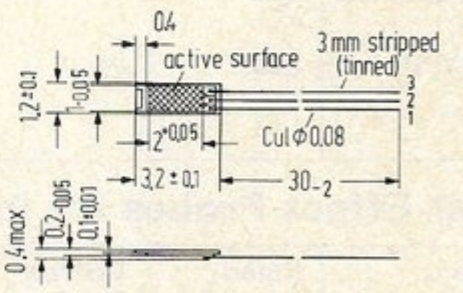


5 Weight approx. 0.025 g

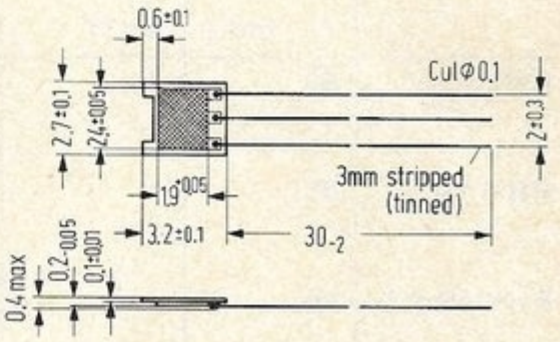
"Differential"-MRs are magnetically controllable resistors with a centre tap. Thus the basic resistance is devided in two equivalent parts. The system is electrically insulated and mounted on an iron substrate

Applications: Registration of small distances, for potentiometer circuits.

Type	Basic resistance at T_A = 25 °C (Tol. ± 20%)	Middle symmetry at T_A = 25 °C (in %)	Resistance ratio at T_A = 25 °C and Induction B (in Tesla) ± 0.3T ± 1T	Temperature coefficient at T_A = 25 °C and Induction B (in Tesla) OT ±0.3T ±1T	Thermal conductivity (mounted metal side down)	Out-line
FP 110 D 155	2×155	2 (< 5)	3 15 (> 2.8) (> 12)	−1.8 −2.7 −2.9	10	**6**
FP 110 L 60	2×60	2 (< 5)	1.85 8.5 (> 1.7) (> 7)	−0.16 −0.38 −0.54	10	**6**
FP 111 L 100	2×100	2 (< 5)	1.85 8.5 (> 1.7) (> 7)	−0.16 −0.38 −0.54	15	**7**



6 Weight approx. 0.02 g



7 Weight approx. 0.03 g

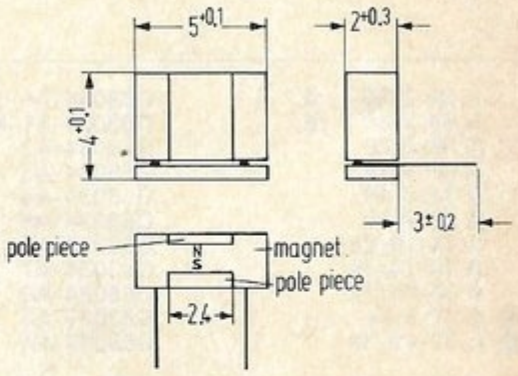
▼ New Type

Magnetoresistors (Fieldplates)

INDUSTRIAL Types

The resistance of "**magnetically prebiased MRs**" are determined by a magnetic bias. They operate in the linear range of the MR-characteristics. Therefore any magnetic field can be measured with correct polarity. The component is protected against mechanical stress.

Type	Basic Resistance at T_A = 25 °C (Tol. ± 20%)	Resistance with magn. bias at T_A = 25 °C and B_V = 0.6 T (Tolerance ± 30%)	Resistance ratio T_A = 25 °C and Induction B_V (in Tesla)	Temperature coefficient at T_A = 25 °C and Induction B (in Tesla)	Thermal conductivity (mounted metal side down)	Outline
	R_O (Ω)	R_{VO} (Ω)	R_{VO}/R_O (Factor)	T_{K25} (%/°C)	$G_{th\,G}$ (mW/K)	
FP 100 L 100	115	450	> 3	0.7	10	**8**



8 Weight approx. 0.25 g

MR-differential sensors consist of two MRs mounted on a common permanent magnet (FP 210 . . .) of two MRs mounted on two magnets (FP 200 . . .). The first type can be influenced by a sheet of softiron whereas the second one is operated by movement of an external control magnet. The MRs are connected in series. They are mounted in a non-magnetic case and cemented with plastic.

Type	Total resistance[1]) of the FP-sensor at T_A = 25 °C $R_{1\text{-}3}$ (Ω)	Open-circuit output voltage V_{ASS} (V)	Thermal conductivity (metal side down mounted) $G_{th\,G}$ (mW/K)	Outline
FP 200 L 100	1000[2])	4 (> 3.5)[3])	10 mW/K	**9**
FP 210 D 250	1000[5])	2 (> 1.5)[4])	5 mW/K	**10**
FP 210 L 100	300[6])	2 (> 1.5)[4])	5 mW/K	**10**

[1]) Airgap $\delta = \infty$

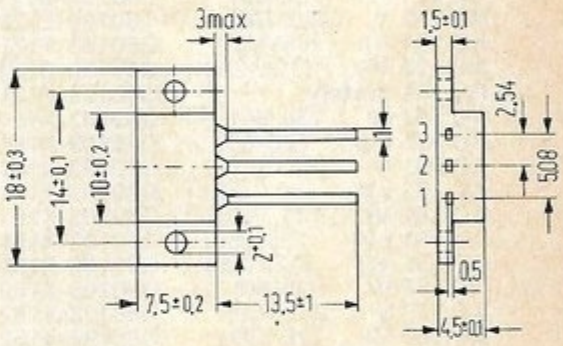
[2]) Tolerance $^{+\,400\,\Omega}_{-\,300\,\Omega}$

[3]) Airgap δ = 0.5 mm
Operating voltage U_B = 8 V
Frontarea-flux of controlmagnets
Φ_{St} = 2 μ Wb

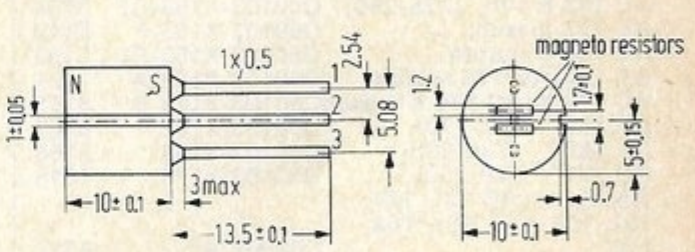
[4]) Airgap δ = 0.1 mm
Operating voltage V_B = 6 V
Load resistance R_a = 1 MΩ

[5]) Tolerance ± 300 Ω

[6]) Tolerance ± 80 Ω



9 Weight approx. 1.5 g



10 Weight approx. 2.4 g

Ordering Code Index (alpha-numerically classified to types) for all discrete semiconductor components listed in this book (page 2-44)

Type	Gain group range (B) [β]	Ordering code	Stock No.
A 34-2/30	A	Q63034-A1-J	8347
A 34-2/30	B	Q63034-A1-M	8348
A 34-4/20		Q63034-A2	–
A 34-5/15		Q63034-A3	–
A 34-6/40		Q63034-A4	–
A 34-7/10		Q63034-A5	–
A 34-10/25		Q63034-A6	–
A 34-14/30		Q63034-A7	–
A 34-25/18		Q63034-A8	–
■ A 37-9/85		Q63037-A3	–
■ A 37-22/38		Q63037-A4	–
AA 113		Q60101-X113-X1	8001
AA 113 match.		Q60101-X113-P1	8002
AA 116		Q60101-X116	8004
AA 116 match.		Q60101-X116-P	8005
AA 117		Q60101-X117	8007
AA 118		Q60101-X118	8010
AA 118 matcl		Q60101-X118-P	8009
■ AA 119		Q60101-X119	–
AA 119 match.		Q60101-X119-P	8538
AAY 27		Q60101-Y27	8012
AAY 28		Q60101-Y28	7001
AAY 43		Q60101-Y43	7002
■ AAY 53		Q60101-Y53	–
■ AAY 54		Q60101-Y54	–
■ AAY 55		Q60101-Y55	–
Adapter to AAY 53, 54, 55		Q62701-A100	–
AC 121 IV	(30-60)	Q60103-D121	8106
AC 121 V	(50-100)	Q60103-E121	8108
AC 121 VI	(75-150)	Q60103-F121	8110
AC 121 VII	(125-250)	Q60103-G121	8112
AC 121 match.		Q60103-P121-X1	8114
AC 151 IV	[30-60]	Q60103-X151-D	8116
AC 151 rIV	[30-60]	Q60103-X151-D1	8118
AC 151 V	[50-100]	Q60103-X151-E	8120
AC 151 rV	[50-100]	Q60103-X151-E1	8122
AC 151 VI	[75-150]	Q60103-X151-F	8125
AC 151 rVI	[75-150]	Q60103-X151-F1	8126
AC 151 VII	[125-250]	Q60103-X151-G	8128
AC 152 IV	(30-60)	Q60103-X152-D	8135
AC 152 V	(50-100)	Q60103-X152-E	8137
AC 152 VI	(75-150)	Q60103-X152-F	8139
AC 152 match.		Q60103-X152-P	8141
AC 152 compl. match.		Q60103-X152-S12	8132
AC 153 V	(50-100)	Q60103-X153-E	8143
AC 153 KV	(50-100)	Q60103-X153-E1	8151
AC 153 VI	(75-150)	Q60103-X153-F	8145
AC 153 K VI	(75-150)	Q60103-X153-F1	8153
AC 153 VII	(125-250)	Q60103-X153-G	8147
AC 153 K VII	(125-250)	Q60103-X153-G1	8154
AC 153 match.		Q60103-X153-P	8149
AC 153 K match.		Q60103-X153-P1	8152
AC 153/AC 176 match.		Q60103-P153-A	7021
AC 153 K/AC 176 K match		Q60103-P153-B	8155
AC 162	[80-170]	Q60103-X162	8157
AC 163	[130-300]	Q60103-X163	8158
AC 176	(50-250)	Q60103-X176	7016
Heatsink (AC 121, 127, 151, 152, 153, 162, 163, 176		Q62901-B1	8336
AC 176 K		Q60103-X176-K	7015
AC 187 K	(100-500)	Q60103-X187-K	7019
AC 187 K/AC 188 K match.		Q60103-X188-S14	8160
AC 188 K	(100-500)	Q60103-X188-K	–
AC 188 K match.		Q60103-X188-P2	8159
ACY 23 V	(20-40)	Q60103-Y23-E	8162
ACY 23 VI	(30-60)	Q60103-Y23-F	8163
ACY 32 V	(50-100)	Q60103-Y32-E	8164
ACY 32 VI	(75-150)	Q60103-Y32-F	8165
ACY 33 VI	(75-150)	Q60103-Y33-F	8167
ACY 33 VII	(125-250)	Q60103-Y33-G	8168
ACY 33 VIII	(175-350)	Q60103-Y33-H	8576
ACY 33 match.		Q60103-Y33-P	8169
Heatsink (ACY 23/32/33)		Q62901-B1	8336
AD 130 III	(20-40)	Q60104-C130	8170
AD 130 IV	(30-60)	Q60104-D130	8171
AD 130 V	(50-100)	Q60104-E130	7022
Mica disc (AD 130, 131, 132 and AD 163)		Q62901-B11-A	8339
AD 130 match.		Q60104-X130-P	8173
AD 131 III	(20-40)	Q60104-C131	8174
AD 131 IV	(30-60)	Q60104-D131	8175
AD 131 V	(50-100)	Q60104-E131	7023
AD 131 match		Q60104-X131-P	8177
AD 132 III	(20-40)	Q60104-C132	8178
AD 132 IV	(30-60)	Q60104-D132	8179
AD 132 V	(50-100)	Q60104-E132	7024
AD 132 match.		Q60104-X132-P	7025
AD 133 III	(20-40)	Q60104-C133	8183
AD 133 IV	(30-60)	Q60104-D133	8182
AD 133 V	(50-100)	Q60104-E133	8507
Mica disc for AD 133		Q62901-B13-A	8340
Insulat. nipple for AD 133		Q62901-B13-B	8341
AD 136 IV	(30-60)	Q60104-D136	–
AD 136 V	(50-100)	Q60104-E136	8186
AD 136 VI	(75-150)	Q60104-F136	8573
Mica disc for AD 136		Q62901-B17-A	8343
Mount. plate for AD 136		Q62901-B17-B	8344
■ AD 148 IV	(30-60)	Q60104-X148-D	8187
■ AD 148 V	(50-100)	Q60104-X148-E	8188
■ AD 148 match.		Q60104-X148-P	8189
Mica disc (AD 148, 161, 162)		Q62901-B16-A	8342
Insulating nipple (AD 148, 161, 162)		Q62901-B13-B	8341
AD 149 IV	(30-60)	Q60104-X149-D	8190
AD 149 V	(50-100)	Q60104-X149-E	–
AD 149 match.		Q60104-X149-P	7026
AD 150 IV	(30-60)	Q60104-X150-D	8192
AD 150 V	(50-100)	Q60104-X150-E	8193
AD 150 match.		Q60104-X150-P	8194
AD 161	(50-350)	Q60104-X161	7017
AD 161 match.		Q60104-P161-P	–
AD 161/AD 162 Kompl. match.		Q60104-P161-A	8195
AD 162 V	(50-100)	Q60104-X162-E	8197
AD 162 VI	(75-150)	Q60104-X162-F	8198
AD 162 VII	(125-250)	Q60104-X162-G	8199
AD 162 VIII	(175-350)	Q60104-X162-H	8574
AD 162 match.		Q60104-X162-P	8200
AD 163 II	(12,5-25)	Q60104-X163-B	8201
AD 163 III	(20-40)	Q60104-X163-C	8202
AD 163 IV	(30-60)	Q60104-X163-D	8203
ADY 27 IV	(30-60)	Q60104-Y27-D	–
ADY 27 V	(50-100)	Q60104-Y27-E	–
ADY 27 match.		Q60104-Y27-P	–
Mica disc (AD 149, 150 and ADY 27)		Q62901-B11-A	8339
Insulating nipple		Q62901-B13-B	8341
AEY 30 A		Q62701-E12	–
AEY 30 B		Q62701-E13	–
AEY 30 C		Q62701-E14	–
AEY 30 D		Q62701-E21	–
AF 106		Q60106-X106	8207
AF 109 R		Q60106-X109-R1	8210
AF 139		Q60106-X139	8221
AF 200 U		Q60106-X200-S8	8870
AF 201 U		Q60106-X201-S22	8871
AF 239		Q60106-X239	8231
AF 239 S		Q62701-F51	8581
AF 240		Q60106-X240	–
AF 279		Q62701-F52	8582
AF 280		Q62701-F50	8583
▼ AF 306		Q62701-F82	7300
▼ AF 379		Q62701-F72	7018
AFY 11		Q60106-Y11	–
AFY 12		Q60106-Y12	8234
AFY 16		Q60106-Y16	8235
AFY 18 C	[40-120]	Q60106-Y18-C	8236
AFY 18 D	[100-300]	Q60106-Y18-D	8580
AFY 18 E	[200-600]	Q60106-Y18-E	8237
AFY 37		Q60106-Y37	–
AFY 42		Q60106-Y42	8240
AFY 39		Q60106-Y29	—
■ APY 12/I		Q60115-Y12-X1	–
■ APY 12/II		Q60115-Y12-X2	–
■ APY 12/III		Q60115-Y12-X3	–
■ APY 13/I		Q60115-Y13-S1	–
■ APY 13/II		Q60115-Y13-S2	–
■ APY 13/III		Q60115-Y13-S3	–
ASY 26		Q60118-Y26	8241
ASY 27		Q60118-Y27	8242
ASY 48 IV	(30-60)	Q60118-Y48-D	8243
ASY 48 V	(50-100)	Q60118-Y48-E	8244
ASY 48 VI	(75-150)	Q60118-Y48-F	8510
ASY 70 IV	(30-60)	Q60118-Y70-D	8245
ASY 70 V	(50-100)	Q60118-Y70-E	8246
ASY 70 VI	(75-150)	Q60118-Y70-F	8247
AUY 18 IV	(30-60)	Q60120-Y18-D	8249
AUY 18 V	(50-100)	Q60120-Y18-E	8508
Mounting plate AUY 18		Q62901-B17-B	8344
Mica disc AUY 18		Q62901-B17-A	8343
Insul. nipple AUY 18		Q62901-B13-B	8341
AUY 19 III	(20-40)	Q60120-Y19-C	8250
AUY 19 IV	(30-60)	Q60120-Y19-D	8251
AUY 19 V	(50-100)	Q60120-Y19-E	–
AUY 20 III	(20-40)	Q60120-Y20-C	8253
AUY 20 IV	(30-60)	Q60120-Y20-D	8254
AUY 20 V	(50-100)	Q60120-Y20-E	–
Insul. nipple AUY 20		Q62901-B13-B	8341
Mica disc AUY 20		Q62901-B11-A	8339
AUY 21 II	(12,5-25)	Q60120-Y21-B	8575
AUY 21 III	(20-40)	Q60120-Y21-C	8256
AUY 21 IV	(30-60)	Q60120-Y21-D	8257
AUY 22 II	(12,5-25)	Q60120-Y22-B	8258
AUY 22 III	(20-40)	Q60120-Y22-C	8259
AUY 22 IV	(30-60)	Q60120-Y22-D	8260
AUY 29 III	(20-40)	Q60120-Y29-C	8261
AUY 29 IV	(30-60)	Q60120-Y29-D	8262
AUY 29 V	(50-100)	Q60120-Y29-E	8509
AUY 29 match.		Q60120-Y29-P	–
Insul. nipple AUY 21, Mica disc 22, 29		Q62901-B13-A	8340
		Q62901-B13-B	8341
AUY 34 II	(12,5-25)	Q60120-Y34-B	8263
AUY 34 III	(20-40)	Q60120-Y34-C	8264
AUY 34 IV	(30-60)	Q60120-Y34-D	8265
Insul. nipple AUY 34		Q62901-B13-B	8341
Mica disc AUY 34		Q62901-B11-A	8339
BA 103		Q60210-X103	7003
BA 104		Q60201-X104	8015
BA 105		Q60201-X105	8016
BA 108		Q60201-X108	8017
BA 127		Q60201-X127	8019
BA 127 D		Q60201-X127-D9	–
BA 133 F		Q62702-A505	8020
BA 138(green)	((3,8-4,9))	Q60201-X138-B	8021
BA 138(red)	((4,4-4,9))	Q60201-X138-C	–
BA 138(blue)	((4,4-5,5))	Q60201-X138-A	8022
BA 182		Q60201-A347	7014
BA 379		Q62702-A485	7013
BAV 74		Q62702-A498	–
BAW 75		Q62702-A396	8645
BAW 76		Q62702-A397	8646
BAY 41		Q60201-Y41	8023
BAY 42		Q60201-Y42	8024
BAY 43		Q60201-Y43	8025
BAY 44		Q60201-Y44	8026
BAY 45		Q60201-Y45	8027
BAY 46		Q60201-Y46	8028
■ BAY 60		Q60201-Y60	7004
BAY 61		Q62702-A389	8579
■ BAY 63		Q60201-Y63	7005
BB 103 (green)	((27-31))	Q62702-B4	8722
BB 103 (blue)	((29-33))	Q62702-B2	8723
BB 104 (green)	((34-39))	Q62702-B6	8637
BB 104 (blue)	((37-42))	Q62702-B5	8638
BB 105 A	((2,3-2,8))	Q62702-B11	–
BB 105 A quart.		Q62702-B11-S4	8647
BB 105 A terz.		Q62702-B11-S2	8639
BB 105 B	((2,0-2,3))	Q62702-B12	–
BB 105 B terz.		Q62702-B12-S2	8640
BB 105 B quart.		Q62702-B12-S3	8604
BB 105 G	((1,8-2,8))	Q62702-B13	–
BB 105 G terz.		Q62702-B13-S1	8641
BB 109 G (yell.)	((4,3-6))	Q62702-B17-S1	–
BB 109 G terz.		Q62702-B17-P5	8750
BB 109 G quart.		Q62702-B17-P4	–
BB 113		Q62702-B41	8091
BBY 24		Q62702-B20	–
BBY 25		Q62702-B21	–
BBY 26		Q62702-B22	–
BBY 27		Q62702-B23	–
▼ BBY 29		Q62702-B42	–
▼ BBY 30		Q62702-B44	–
BC 107 A	(120-220)	Q60203-X107-A	8266
BC 107 B	(180-460)	Q60203-X107-B	8268
BC 108 A	(120-220)	Q60203-X108-A	8270
BC 108 B	(180-460)	Q60203-X108-B	8272
BC 108 C	(380-800)	Q60203-X108-C	8274
BC 109 B	(180-460)	Q60203-X109-B	8275
BC 109 C	(380-800)	Q60203-X109-C	8277
BC 110		Q62702-C152	8559
BC 121 white	[75-150]	Q60203-X121-X9	8279
BC 121 yell.	[125-260]	Q60203-X121-X4	8280
BC 121 green	[240-500]	Q60203-X121-S6	8281

▼ New Type ■ Not for new developments

Type	Gain group range (B) [β]	Ordering code	Stock No.
BC 121 blue	[450-900]	Q60203-X121-X6	8282
BC 122 white	[75-150]	Q60203-X122-X9	8284
BC 122 yell.	[125-260]	Q60203-X122-X4	8283
BC 122 green	[240-500]	Q60203-X122-X10	8286
BC 122 blue	[450-900]	Q60203-X122-X6	8285
BC 123 white	[75-150]	Q60203-X123-X9	8287
BC 123 yell.	[125-260]	Q60203-X123-X4	8288
BC 123 green	[240-500]	Q60203-X123-X5	8289
BC 140-6	(40-100)	Q60203-X140-V6	8569
BC 140-10	(63-160)	Q60203-X140-V10	8512
BC 140-16	(100-250)	Q60203-X140-V16	8513
BC 140 match.		Q60203-X140-P	7027
BC 140/BC 160 compl. match.		Q62702-C228-S2	8769
BC 141-6	(40-100)	Q62702-C234	8570
BC 141-10	(63-160)	Q62702-C235	8571
BC 141-16	(100-250)	Q62702-C236	8572
BC 141 match.		Q62702-C209	7028
BC 141/BC 161 compl. match.		Q62702-C230-S2	8770
BC 147 A	(120-220)	Q60203-X147-A	8514
BC 147 B	(180-460)	Q60203-X147-B	8515
BC 148 A	(120-220)	Q60203-X148-A	8516
BC 148 B	(180-460)	Q60203-X148-B	8517
BC 148 C	(380-800)	Q60203-X148-C	8518
BC 149 B	(180-460)	Q60203-X149-B	8519
BC 149 C	(380-800)	Q60203-X149-C	8520
BC 157 A	(125-260)	Q62702-C162	8592
BC 157 B	(240-500)	Q62702-C163	8792
BC 158 A	(125-260)	Q62702-C157	8594
BC 158 B	(240-500)	Q62702-C158	8595
BC 158 C	(380-800)	Q62702-C436	
BC 159 B	(240-500)	Q62702-C161	8597
BC 159 C	(380-800)	Q62702-C437	–
BC 160-6	(40-100)	Q62702-C228-V6	8741
BC 160-10	(63-160)	Q62702-C228-V10	8742
BC 160-16	(100-250)	Q62702-C228-V16	8743
BC 160 match.		Q62702-C228-P	–
BC 161-6	(40-100)	Q62702-C230	8744
BC 161-10	(63-160)	Q62702-C231	8745
BC 161-16	(100-250)	Q62702-C239	8746
BC 161 match.		Q62702-C230-P	–
BC 167 A	(120-220)	Q62702-C74	8521
BC 167 B	(180-460)	Q62702-C75	8522
BC 168 A	(120-220)	Q62702-C76	8523
BC 168 B	(180-460)	Q62702-C77	8524
BC 168 C	(380-800)	Q62702-C78	8525
BC 169 B	(180-460)	Q62702-C79	8526
BC 169 C	(380-800)	Q62702-C80	8527
BC 177 A	(125-260)	Q62702-C141	8585
BC 177 B	(240-500)	Q62702-C142	8793
BC 178 A	(125-260)	Q62702-C153	8587
BC 178 B	(240-500)	Q62702-C154	8588
BC 178 C	(380-800)	Q62702-C155	–
BC 179 B	(240-500)	Q62702-C303	8590
BC 179 C	(380-800)	Q62702-C145	–
BC 182 A	(120-220)	Q62702-C372	7044
BC 182 B	(180-460)	Q62702-C373	7045
BC 201 red	[50-100]	Q62702-C166	8605
BC 201 white	[75-150]	Q62702-C167	8606
BC 201 yell.	[125-260]	Q62702-C168	8607
BC 201 green	[240-500]	Q62702-C310	8608
BC 202 red	[50-100]	Q62702-C171	8609
BC 202 white	[75-150]	Q62702-C172	8610
BC 202 yell.	[125-260]	Q62702-C173	8881
BC 203 red	[50-100]	Q62702-C176	8882
BC 203 white	[75-150]	Q62702-C177	8883
BC 203 yell.	[125-260]	Q62702-C178	7253
BC 212 A	(120-220)	Q62702-C374-V1	7029
BC 212 B	(180-460)	Q62702-C374-V2	7030
BC 237 A	(125-260)	Q62702-C276	8826
BC 237 B	(240-500)	Q62702-C277	8827
BC 238 A	(125-260)	Q62702-C278	8828
BC 238 B	(240-500)	Q62702-C279	8829
BC 238 B	(450-900)	Q62702-C280	8830
BC 239 B	(240-500)	Q62702-C281	8831
BC 239 C	(450-900)	Q62702-C282	8832
BC 257 A	(125-260)	Q62702-C184	8599
BC 257 B	(240-500)	Q62702-C206	8794
BC 258 A	(125-260)	Q62702-C187	8601
BC 258 B	(240-500)	Q62702-C188	8602
BC 258 C	(380-800)	Q62702-C438	
BC 259 B	(240-500)	Q62702-C192	8872
BC 259 C	(380-800)	Q62702-439	–
BC 307 A	(125-260)	Q62702-C283	8795
BC 307 B	(240-500)	Q62702-C324	8879
BC 308 A	(125-260)	Q62702-C285	8797
BC 308 B	(240-500)	Q62702-C286	8798
BC 308 C	(380-800)	Q62702-C393	7254
BC 309 B	(240-500)	Q62702-C289	8800
BC 309 C	(380-800)	Q62702-C323	7255
BC 327-16	(100-250)	Q62702-C311-V3	8801
BC 327-25	(160-400)	Q62702-C311-V4	8802
BC 327-40	(250-630)	Q62702-C311-V2	8803
BC 328-16	(100-250)	Q62702-C312-V3	8804
BC 328-25	(160-400)	Q62702-C312-V4	8805
BC 328-40	(250-630)	Q62702-C312-V2	8806
BC 337-16	(100-250)	Q62702-C313-V3	8833
BC 337-25	(160-400)	Q62702-C313-V1	8834
BC 337-40	(250-630)	Q62702-C313-V2	8835
BC 338-16	(100-250)	Q62702-C314-V1	8836
BC 338-25	(160-400)	Q62702-C314-V2	8837
BC 338-40	(250-630)	Q62702-C314-V3	8838
BC 327/BC 337 compl. match.		Q62702-C366-S1	8839
BC 328/BC 338 compl. match.		Q62702-C367-S1	8840
BC 413 B	(180-460)	Q62702-C375-V1	8213
BC 413 C	(380-800)	Q62702-C375-V2	8215
BC 414 B	(180-460)	Q62702-C376-V1	7031
BC 414 C	(380-800)	Q62702-C376-V2	7032
BC 415 A	(120-220)	Q62702-C377-V1	8217
BC 415 B	(180-460)	Q62702-C377-V2	8219
BC 415 C	(380-800)	Q62702-C377-V3	8345
BC 416 A	(120-220)	Q62702-C378-V1	7033
BC 416 B	(180-460)	Q62702-C378-V2	7034
BC 416 C	(380-800)	Q62702-C378-V3	7035
BCW 60 AA	(120-220)	Q62702-C331	8847
BCW 60 AB	(180-310)	Q62702-C332	8848
BCW 60 AC	(250-460)	Q62702-C333	8849
BCW 60 AD	(380-630)	Q62702-C334	8850
BCW 61 BA	(120-220)	Q62702-C335	8842
BCW 61 BB	(180-310)	Q62702-C336	8843
BCW 61 BC	(250-460)	Q62702-C337	8844
BCW 61 BD	(380-630)	Q62702-C338	8845
▼ **BCW 65 EA**	(100-250)	Q62702-C457	7373
▼ **BCW 65 EB**	(160-400)	Q62702-C458	7374
▼ **BCW 65 EC**	(250-630)	Q62702-C459	7375
▼ **BCW 66 EF**	(100-250)	Q62702-C460	7376
▼ **BCW 66 EG**	(160-400)	Q62702-C461	7377
▼ **BCW 66 EH**	(250-630)	Q62702-C462	7378
▼ **BCW 67 DA**	(100-250)	Q62702-C463	7379
▼ **BCW 67 DB**	(160-400)	Q62702-C464	7380
▼ **BCW 67 DC**	(250-630)	Q62702-C465	7381
▼ **BCW 68 DF**	(100-250)	Q62702-C466	7382
▼ **BCW 68 DG**	(160-400)	Q62702-C467	7383
▼ **BCW 68 DH**	(250-630)	Q62702-C468	7384
▼ **BCW 87**		Q62702-C369	–
▼ **BCW 88**		Q62702-C370	–
▼ **BCX 58 VII**	(120-220)	Q62702-C618	–
▼ **BCX 58 VIII**	(180-310)	Q62702-C619	–
▼ **BCX 58 IX**	(250-460)	Q62702-C620	–
▼ **BCX 58 X**	(380-630)	Q62702-C621	–
▼ **BCX 59 VII**	(120-220)	Q62702-C622	–
▼ **BCX 59 VIII**	(180-310)	Q62702-C623	–
▼ **BCX 59 IX**	(250-460)	Q62702-C624	–
▼ **BCX 59 X**	(380-630)	Q62702-C625	–
▼ **BCX 70 AG**	(120-220)	Q62702-C423	7385
▼ **BCX 70 AH**	(180-310)	Q62702-C424	7386
▼ **BCX 70 AJ**	(250-460)	Q62702-C425	7387
▼ **BCX 70 AK**	(380-630)	Q62702-C426	7388
▼ **BCX 71 BG**	(120-220)	Q62702-C427	7389
▼ **BCX 71 BH**	(120-310)	Q62702-C428	7390
▼ **BCX 71 BJ**	(250-460)	Q62702-C429	7391
▼ **BCX 71 BK**	(380-630)	Q62702-C430	7392
▼ **BCX 73-16**	(100-250)	Q62702-C634-S1	–
▼ **BCX 73-25**	(160-400)	Q62702-C634-S2	–
▼ **BCX 73-40**	(250-630)	Q62702-C634-S3	–
▼ **BCX 74-16**	(100-250)	Q62702-C635-S1	–
▼ **BCX 74-25**	(160-400)	Q62702-C635-S2	–
▼ **BCX 74-40**	(250-630)	Q62702-C635-S3	–
▼ **BCX 75-16**	(100-250)	Q62702-C636-S1	–
▼ **BCX 75-25**	(160-400)	Q62702-C636-S2	–
▼ **BCX 75-40**	(250-630)	Q62702-C636-S3	–
▼ **BCX 76-16**	(100-250)	Q62702-C637-S1	–
▼ **BCX 76-25**	(160-400)	Q62702-C637-S2	–
▼ **BCX 76-40**	(250-630)	Q62702-C637-S3	–
▼ **BCX 78 VII**	(120-220)	Q62702-C626	–
▼ **BCX 78 VIII**	(180-310)	Q62702-C627	–
▼ **BCX 78 IX**	(250-460)	Q62702-C628	–
▼ **BCX 78 X**	(380-630)	Q62702-C629	–
▼ **BCX 79 VII**	(120-220)	Q62702-n630	–
▼ **BCX 79 VIII**	(180-310)	Q62702-C631	–
▼ **BCX 79 IX**	(250-460)	Q62702-C632	–
▼ **BCX 79 X**	(380-630)	Q62702-C633	–
BCY 58 VII	(120-220)	Q60203-Y58-G	829
BCY 58 VIII	(180-310)	Q60203-Y58-H	829
BCY 58 IX	(250-460)	Q60203-Y58-J	8292
BCY 58 X	(380-630)	Q60203-Y58-K	8293
BCY 59 VII	(120-220)	Q60203-Y59-G	8294
BCY 59 VIII	(180-310)	Q60203-Y59-H	8295
BCY 59 IX	(250-460)	Q60203-Y59-J	8296
BCY 59 X	(380-630)	Q60203-Y59-K	8297
BCY 65 E VII	(120-220)	Q60203-Y65-E7	8298
BCY 65 E VIII	(180-310)	Q60203-Y65-E8	8299
BCY 65 E IX	(250-460)	Q60203-Y65-E9	8300
BCY 66	(180-630)	Q60203-Y66	8302
BCY 67	(180-630)	Q62702-C254	8841
BCY 77 VII	(120-220)	Q62702-C327-V1	8346
BCY 77 VIII	(180-310)	Q62702-C327-V2	8349
BCY 77 IX	(250-460)	Q62702-C327-V3	8350
BCY 78 VII	(120-220)	Q60203-Y78-G	8612
BCY 78 VIII	(180-310)	Q60203-Y78-H	8613
BCY 78 IX	(250-460)	Q60203-Y78-J	8614
BCY 78 X	(380-630)	Q60203-Y78-K	–
BCY 79 VII	(120-220)	Q60203-Y79-G	8615
BCY 79 VIII	(180-310)	Q60203-Y79-H	8616
BCY 79 IX	(250-460)	Q60203-Y79-J	8617
BD 130	(20-70)	Q62702-D63	8623
BD 130 match.		Q62702-D63-P	8624
BD 135-6	(40-100)	Q62702-D106-V1	8807
BD 135-10	(63-160)	Q62702-D106-V2	8808
BD 135-16	(100-250)	Q62702-D106-V3	8809
BD 135 match.		Q62702-D106-P	8355
BD 136-6	(40-100)	Q62702-D107-V1	8818
BD 136-10	(63-160)	Q62702-D107-V2	8819
BD 136-16	(100-250)	Q62702-D107-V3	8820
BD 136 match.		Q62702-D107-S1	8356
BD 137-6	(40-100)	Q62702-D108-V1	8810
BD 137-10	(63-160)	Q62702-D108-V2	8811
BD 137 match.		Q62702-D108-P	8413
BD 138-6	(40-100)	Q62702-D109-V1	8821
BD 138-10	(63-160)	Q62702-D109-V2	8822
BD 138 match.		Q62702-D109-S1	8480
BD 139-6	(40-100)	Q62702-D110-V1	8813
BD 139-10	(63-160)	Q62702-D110-V2	8814
BD 139 match.		Q62702-D110-P	8482
BD 135/BD 136 compl. match.		Q62702-D139-S1	8815
BD 137/BD 138 compl. match.		Q62702-D140-S1	8816
BD 139/BD 140 compl. match.		Q62702-D141-S1	8817
BD 140-6	(40-100)	Q62702-D111-V1	8824
BD 140-10	(63-160)	Q62702-D111-V2	8825
BD 140 match.		Q62702-D111-S1	–
▼ **BD 233**	(40)	Q62702-D181	–
▼ **BD 234**	(40)	Q62702-D184	–
▼ **BD 235**	(40)	Q62702-D182	–
▼ **BD 236**	(40)	Q62702-D185	–
▼ **BD 237**	(40)	Q62702-D183	–
▼ **BD 238**	(40)	Q62702-D186	–
▼ Mica disc / Spring washer A 3 DIN 137	**BD 233 to BD 238**	Q62902-B62 / Q62902-B63	7201 / 7202
▼ **BD 433/BD 434 compl. match.**		Q62702-D217	–
▼ **BD 435/BD 436 compl. match.**		Q62702-D218	–
▼ **BD 437/BD 438 compl. match.**		Q62702-D219	–
▼ **BD 439/BD 440 compl. match.**		Q62702-D884	–
▼ **BD 439**		Q62702-D280	–
▼ **BD 440**		Q62702-D281	–
▼ **BD 441**		Q62702-D282	–
▼ **BD 442**		Q62702-D283	–
▼ **BD 441/BD 442 compl. match.**		Q62702-D285	–
▼ **BD 533**		Q62702-D220	–
▼ **BD 533/BD 534 compl. match.**		Q62702-D226	–
▼ **BD 534**		Q62702-D221	–
▼ **BD 535**		Q62702-D222	–
▼ **BD 535/BD 536 compl. match.**		Q62702-D227	–
▼ **BD 536**		Q62702-D223	–
▼ **BD 537**		Q62702-D224	–
▼ **BD 538**		Q62702-D225	
▼ **BD 537/BD 538 compl. match.**		Q62702-D228	–
▼ **BD 675**		Q62702-D238	–
▼ **BD 676**		Q62702-D239	–
▼ **BD 675/BD 676 compl. match.**		Q62702-D244	–
▼ **BD 677**		Q62702-D240	–
▼ **BD 678**		Q62702-D241	–
▼ **BD 677/BD 678 compl. match.**		Q62702-D245	–
▼ **BD 679**		Q62702-D242	–
▼ **BD 680**		Q62702-D243	–
▼ **BD 679/BD 680 compl. match.**		Q62702-D246	–

▼ New Type ■ Not for new devices

Type	Gain group range (B) [β]	Ordering code	Stock No.
BDX 25-4	(25-60)	Q62702-D145-V4	–
BDX 25-6	(40-100)	Q62702-D145-V6	–
BDX 25-10	(63-160)	Q62702-D145-V10	–
▼ BDX 27-6	(40-100)	Q62702-D162-V6	–
▼ BDX 27-10	(63-160)	Q62702-D162-V10	–
▼ BDX 27-16	(100-250)	Q62702-D162-V16	–
▼ BDX 28-6	(40-100)	Q62702-D159-V6	–
▼ BDX 28-10	(63-160)	Q62702-D159-V10	–
▼ BDX 28-16	(100-250)	Q62702-D159-V16	–
▼ BDX 29-6	(40-100)	Q62702-D160-V6	–
▼ BDX 29-10	(63-160)	Q62702-D160-V10	–
▼ BDX 30-6	(40-100)	Q62702-D163-V6	–
▼ BDX 30-10	(63-160)	Q62702-D163-V10	–
Mica disc		Q62901-B47	7228
Insulating nipple		Q62901-B13-C	8566
BDY 12-6	(40-100)	Q60204-Y12-B	8851
BDY 12-10	(63-160)	Q60204-Y12-C	8852
BDY 13-6	(40-100)	Q60204-Y13-B	8854
BDY 13-10	(63-160)	Q60204-Y13-C	8855
BDY 39-4	(25-63)	Q62702-D81-V2	–
BDY 39-6	(40-100)	Q62702-D81-V1	–
BDY 39 gep.		Q62702-D98	8857
BDY 87	(> 500)	Q62702-D131	8351
BDY 88	(> 500)	Q62702-D130	8352
BDY 89	(> 500)	Q62702-D129	8353
Mica disc for BDY 87, 88, 89		Q62901-B40	8089
Insulating nipple		Q62901-B13-C	8566
BF 194		Q62702-F147	8688
BF 195		Q62702-F148	8689
▼ BF 198		Q62702-F354	7071
▼ BF 199		Q62702-F355	7072
BF 240		Q62702-F302	8483
BF 241		Q62702-F303	8484
BF 254		Q62702-F201	8747
BF 255		Q62702-F202	8748
BF 324		Q62702-F311	7037
▼ BF 362		Q62702-F395	–
▼ BF 363		Q62702-F396	–
BF 450		Q62702-F312	7038
BF 451		Q62702-F313	7039
BF 457		Q62702-F315	7040
BF 458		Q62702-F316	7041
BF 459		Q62702-F317	7042
▼ BFR 14 A		Q62702-F416	–
BFR 15		Q62702-F322	–
▼ BFR 28		Q62702-F310	–
▼ BFR 34		Q62702-F346	–
▼ BFR 35		Q62702-F347	–
▼ BFS 17		Q62702-F337	7065
▼ BFS 20		Q62702-F350	7066
BFS 55		Q62702-F272	7058
▼ BFT 12		Q62702-F390	7069
BFW 16 A		Q62702-F319	–
BFW 30		Q62702-F320	7060
BFW 92		Q62702-F321	7061
BFW 99 S		Q62702-F244-S	–
BFX 55		Q60206-X55	8713
BFX 59		Q60206-X59	8714
BFX 59 F		Q60206-X59-S5	8884
■ BFX 60		Q60206-X60	8625
BFX 62		Q60206-X62	8846
BFX 89		Q62702-F296	8885
BFY 90		Q62702-F297	8886
BGY 12 A		Q62702-G1	–
BGY 12 B		Q62702-G2	–
BGY 13 A		Q62702-G4	–
BGY 13 B		Q62702-G4	–
BGY 14 A		Q62702-G5	–
BGY 14 B		Q62702-G6	–
BP 100		Q60215-X100	8099
BP 101 I		Q62702-B28	7077
BP 101 II		Q62702-B35	8752
BP 101 III		Q62702-B29	7078
BP 101 IV		Q62702-P12-S1	–
BP 102 I		Q62702-P23-S1	7164
BP 102 II		Q62702-P23-S2	7215
BP 102 III		Q62702-P23-S3	7216
BP 102 IV		Q62702-P23-S4	7217
▼ BPX 38 I		Q62702-P15-S1	7079
▼ BPX 38 II		Q62702-P15-S2	7218
▼ BPX 38 III		Q62702-P15-S3	7219
▼ BPX 38 IV		Q62702-P15-S4	7220
▼ BPX 43 I		Q62702-P16-S1	7221
▼ BPX 43 II		Q62702-P16-S2	7222
▼ BPX 43 III		Q62702-P16-S3	7223
▼ BPX 43 IV		Q62702-P16-S4	7224
BPX 48		Q62702-P17	8643
▼ BPX 60		Q62702-P54	–
BPX 62 I		Q62702-P19-S1	–
BPX 62 II		Q62702-P19-S2	–
BPX 62 III		Q62702-P19-S3	–
BPX 62 IV		Q62702-P19-S4	–
BPX 63		Q62702-P55	–
BPX 65		Q62702-P24	8644
BPX 77		Q62702-P61	–
BPX 78		Q62702-P62	–
BPX 79		Q62702-P51	–
BPX 80		Q62702-P28	–
BPX 81		Q62702-P20	7081
BPX 81 I		Q62702-P43-S1	–
BPX 81 II		Q62702-P43-S2	–
BPX 81 III		Q62702-P43-S3	–
BPX 81 IV		Q62702-P43-S4	–
BPX 82		Q62702-P21	7082
BPX 83		Q62702-P25	7083
BPX 84		Q62702-P30	–
BPX 85		Q62702-P31	–
BPX 86		Q62702-P22	7084
BPX 87		Q62702-P32	–
BPX 88		Q62702-P33	–
BPX 89		Q62702-P26	7085
BPX 90		Q62702-P47	–
BPX 91		Q62702-P48	–
BPX 92		Q62702-P49	–
BPX 93		Q62702-P50	–
BPY 11		Q60215-Y11	8100
BPY 11 I		Q60215-Y11-X10	7086
BPY 11 II		Q60215-Y11-X11	7087
BPY 11 III		Q60215-Y11-X12	7088
BPY 12		Q62702-P9	7089
BPY 43		Q60215-Y43	8101
BPY 44		Q60215-Y44	8102
BPY 45		Q60215-Y45	8103
BPY 47		Q60215-Y47	8551
BPY 48		Q60215-Y48	8552
BPY 61 I		Q60215-Y61-S1	8556
BPY 61 II		Q60215-Y61-S2	8557
BPY 61 III		Q60215-Y61-S3	8558
BPY 61 IV		Q62702-P70	–
BPY 62 I		Q60215-Y62-A	8567
BPY 62 II		Q60215-Y62-B	8553
BPY 62 III		Q60215-Y62-C	8568
BPY 63		Q60215-Y63	8554
BPY 64		Q60215-Y64	8555
BPY 74		Q62702-P14	–
BRY 20		Q60217-Y20	8315
▼ BRY 21		Q62702-R81	8577
BSV 15-6	(40-100)	Q62702-S207	8716
BSV 15-10	(63-160)	Q62702-S208	8717
BSV 15-16	(100-250)	Q62702-S209	8718
BSV 16-6	(40-100)	Q62702-S210	8719
BSV 16-10	(63-160)	Q62702-S211	8720
BSV 16-16	(100-250)	Q62702-S212	8721
BSV 17-6	(40-100)	Q62702-S213	7046
BSV 17-10	(63-160)	Q62702-S214	7047
▼ BSV 65 FA		Q62702-S347	–
▼ BSV 65 FB		Q62702-S348	–
BSX 45-6	(40-100)	60218-X45-V6	8627
BSX 45-10	(63-160)	Q60218-X45-V10	8528
BSX 45-16	(100-250)	Q60218-X45-V16	8628
BSX 46-6	(40-100)	Q60218-X46-V6	8629
BSX 46-10	(63-160)	Q60218-X46-V10	8529
BSX 46-16	(100-250)	Q60218-X46-V16	8630
BSX 47-6	(40-100)	Q60218-X47-V6	7048
BSX 47-10	(63-160)	Q60218-X47-V10	7049
BSX 48		Q60218-X48	8530
BSX 49		Q60218-X49	8531
BSX 62-6	(40-100)	Q60218-X62-B	8631
BSX 62-10	(63-160)	Q60218-X62-C	8632
BSX 62-16	(100-250)	Q60218-X62-D	8633
BSX 63-6	(40-100)	Q60218-X63-B	8634
BSX 63-10	(63-160)	Q60218-X63-C	8635
BSY 17		Q60218-Y17	8316
BSY 18		Q60218-Y18	8317
BSY 34		Q60218-Y34	8318
BSY 58		Q60218-Y58	8319
BSY 62 A	(20-60)	Q60218-Y62-A	8320
BSY 62 B	(30-300)	Q60218-Y62-B	8715
BSY 63		Q60218-Y63	8321
BU 110		Q62702-U83	8487
BU 111		Q62702-U84	8488
BU 114		Q62702-U118	7043
BU 126		Q62702-U167	–
BU 310		Q62702-U209	–
BU 311		Q62702-U210	–
BU 312		Q62702-U211	–
▼ BUY 26		C66060-A2399-A1	–
▼ BUY 27		C66060-A2399-A2	–
▼ BUY 28		C66060-A2399-A3	–
Cool. block for BUY 26, 27, 28			
FK 04		C66055-A6103-B3	–
HK 04		C66055-A6104-B2	–
BUY 35		Q62702-U112	7050
▼ BUY 55-4	(25-63)	Q62702-U107-V4	–
▼ BUY 55-6	(40-100)	Q62702-U107-V6	7135
▼ BUY 55-10	(63-160)	Q62702-U107-V10	–
▼ BUY 56-4	(25-63)	Q62702-U108-V4	–
▼ BUY 56-6	(40-100)	Q62702-U108-V6	7138
▼ BUY 56-10	(63-160)	Q62702-U108-V10	–
▼ BUY 57		Q62702-U109	7054
▼ BUY 58		Q62702-U110	7055
▼ BUY 72-4	(25-63)	Q62702-U123-V4	–
▼ BUY 72-6	(40-100)	Q62702-U-123-V6	7141
▼ BUY 72-10	(63-160)	Q62702-U123-V10	–
Mica disc		Q62901-B47	7228
Insulating nipple for BUY 55, 56, 72 and BU 110		Q62901-B13-C	8566
▼ BUY 73		Q62702-U124	7056
Mica disc		Q62901-B48	7281
Insulating nipple for BUY 57, 58, 73, BU 210, 211 and BU 212		Q62901-B13-C	8566
BUY 74, 75, 76			
▼ BUY 74		Q62702-U146	7051
▼ BUY 75		Q62702-U147	7052
▼ BUY 76		Q62702-U148	7053
▼ BUY 77		Q62702-U151	7301
▼ BUY 78		Q62702-U152	7302
▼ BUY 79		Q62702-U153	7303
▼ BXY 10 A		Q60223-Y10-A	–
▼ BXY 10 B		Q60223-Y10-B	–
BXY 10 C		Q60223-Y10-C	–
BXY 10 D		Q60223-Y10-D	–
BXY 11 E		Q60223-Y11-E	–
▼ BXY 11 F		Q60223-Y11-F	–
BXY 11 GA		Q60223-Y11-G1	–
▼ BXY 13 A		Q62702-X86	–
▼ BXY 13 B		Q60223-Y13-B	–
BXY 13 C		Q60223-Y13-C	–
BXY 13 D		Q60223-Y13-D	–
BXY 14 E		Q60223-Y14-E	–
▼ BXY 14 F		Q60223-Y14-F	–
BXY 14 GA		Q62702-X48	–
BXY 15 CA-1		Q62702-X72	–
BXY 15 CA-2		Q62702-X73	–
▼ BXY 15 DC-1		Q62702-X89	–
▼ BXY 15 DC-2		Q62702-X90	–
BXY 16 B		Q60223-X16-V1	–
BXY 16 C 1		Q60223-Y16-C1	–
BXY 16 C 2		Q60223-Y16-C2	–
BXY 17 CA-1		Q62702-X94	–
BXY 17 CA-2		Q62702-X	–
BXY 19 E		Q60223-Y19-E	–
BXY 19 F		Q60223-Y19-F	–
▼ BXY 19 FB		Q62702-X53	–
BXY 19 GB		Q60223-Y19-G2	–
BXY 19 HA		Q62702-X50	–
BXY 21 CA		Q62702-X54	–
BXY 22 G		Q60223-Y22-G	–
BXY 22 H		Q60223-Y22-H	–
BXY 22 J		Q60223-Y22-J	–
BXY 23		Q60223-Y23	–
BXY 24 EA-3		Q62702-X76-E3	–
BXY 42		Q62702-X81	–
BXY 43		Q62702-X82	–
BXY 44		Q62702-X83	–
■ BZX 55 COV8		Q62702-Z569	8665
■ BZX 55 C5V6		Q62702-Z570	8666
■ BZX 55 C6V2		Q62702-Z571	8667
■ BZX 55 C6V8		Q62702-Z572	8668
■ BZX 55 C7V5		Q62702-Z573	8669
■ BZX 55 C8V2		Q62702-Z574	8670
■ BZX 55 C9V1		Q62702-Z575	8671
■ BZX 55 C10		Q62702-Z682	8672
■ BZX 55 C11		Q62702-Z683	8673
■ BZX 55 C12		Q62702-Z684	8674

▼ New Type ■ Not for new developments

Type	Ordering code	Stock No.
■ BZX 55 C13	Q62702-Z835	8675
■ BZX 55 C15	Q62702-Z686	8676
■ BZX 55 C16	Q62702-Z840	8677
■ BZX 55 C18	Q62702-Z688	8866
■ BZX 55 C20	Q62702-Z689	8679
■ BZX 55 C22	Q62702-Z690	8680
■ BZX 55 C24	Q62702-Z841	8681
■ BZX 55 C27	Q62702-Z847	8490
■ BZX 55 C30	Q62702-Z848	8491
■ BZX 55 C33	Q62702-Z849	8492
■ BZX 55 C36	Q62702-Z850	8493
■ BZX 55 D5V6	Q62702-Z576	–
■ BZX 55 D6V8	Q62702-Z577	–
■ BZX 55 D8V2	Q62702-T578	–
■ BZX 55 D10	Q62702-Z579	–
■ BZX 55 D12	Q62702-Z692	–
■ BZX 55 D15	Q62702-Z693	–
■ BZX 55 D18	Q62702-Z694	–
■ BZX 55 D22	Q62702-Z695	–
■ BZX 55 D27	Q62702-Z851	–
■ BZX 55 D33	Q62702-Z852	–
■ BZX 83 C0V8	Q62702-Z1352	7331
■ BZX 83 C2V4	Q62702-Z1353	7332
▼ BZX 83 C2V7	Q62702-Z1063	7304
▼ BZX 83 C3V0	Q62702-Z1064	7305
▼ BZX 83 C3V3	Q62702-Z1065	7306
▼ BZX 83 C3V6	Q62702-Z1066	7307
▼ BZX 83 C3V9	Q62702-Z1067	7308
▼ BZX 83 C4V3	Q62702-Z1068	7309
▼ BZX 83 C4V7	Q62702-Z1069	7310
▼ BZX 83 C5V1	Q62702-Z1070	7311
▼ BZX 83 C5V6	Q62702-Z1071	7312
▼ BZX 83 C6V2	Q62702-Z1072	7313
▼ BZX 83 C6V8	Q62702-Z1073	7330
▼ BZX 83 C7V5	Q62702-Z1074	7314
▼ BZX 83 C8V2	Q62702-Z1075	7315
▼ BZX 83 C9V1	Q62702-Z1076	7316
▼ BZX 83 C10	Q62702-Z1077	7317
▼ BZX 83 C11	Q62702-Z1078	7318
▼ BZX 83 C12	Q62702-Z1079	7319
▼ BZX 83 C13	Q62702-Z1080	7320
▼ BZX 83 C15	Q62702-Z1081	7321
▼ BZX 83 C16	Q62702-Z1082	7322
▼ BZX 83 C18	Q62702-Z1083	7323
▼ BZX 83 C20	Q62702-Z1084	7324
▼ BZX 83 C22	Q62702-Z1085	7325
▼ BZX 83 C24	Q62702-Z1086	7326
▼ BZX 83 C27	Q62702-Z1087	7327
▼ BZX 83 C30	Q62702-Z1088	7328
▼ BZX 83 C33	Q62702-Z1089	7329
▼ BZX 97 C0V8	Q62702-Z1385	7333
▼ BZX 97 C2V4	Q62702-Z1273	7334
▼ BZX 97 C2V7	Q62702-Z1221	7335
▼ BZX 97 C3V0	Q62702-Z1222	7336
▼ BZX 97 C3V3	Q62702-Z1223	7337
▼ BZX 97 C3V6	Q62702-Z1224	7338
▼ BZX 97 C3V9	Q62702-Z1225	7339
▼ BZX 97 C4V3	Q62702-Z1226	7340
▼ BZX 97 C4V7	Q62702-Z1227	7341
▼ BZX 97 C5V1	Q62702-Z1228	7342
▼ BZX 97 C5V6	Q62702-Z1229	7343
▼ BZX 97 C6V2	Q62702-Z1230	7344
▼ BZX 97 C6V8	Q62702-Z1231	7345
▼ BZX 97 C7V5	Q62702-Z1232	7346
▼ BZX 97 C8V2	Q62702-Z1233	7347
▼ BZX 97 C9V1	Q62702-Z1234	7348
▼ BZX 97 C10	Q62702-Z1235	7349
▼ BZX 97 C11	Q62702-Z1236	7350
▼ BZX 97 C12	Q62702-Z1237	7351
▼ BZX 97 C13	Q62702-Z1238	7352
▼ BZX 97 C15	Q62702-Z1239	7353
▼ BZX 97 C16	Q62702-Z1240	7354
▼ BZX 97 C18	Q62702-Z1241	7355
▼ BZX 97 C20	Q62702-Z1242	7356
▼ BZX 97 C22	Q62702-Z1243	7357
▼ BZX 97 C24	Q62702-Z1244	7358
▼ BZX 97 C27	Q62702-Z1245	7359
▼ BZX 97 C30	Q62702-Z1246	7360
▼ BZX 97 C33	Q62702-Z1247	7361
BZY 83/C4V7	Q60225-Y83-J1	8031
BZY 83/C5V1	Q60225-Y83-J2	8032
BZY 83/C5V6	Q60225-Y83-J3	8033
BZY 83/C6V2	Q60225-Y83-J4	8034
BZY 83/C6V8	Q60225-Y83-J5	8035
BZY 83/C7V5	Q60225-Y83-J6	8036
BZY 83/C8V2	Q60225-Y83-J7	8037
BZY 83/C9V1	Q60225-Y83-J8	8038
BZY 83/C10	Q60225-Y83-J9	8039
BZY 83/C11	Q60225-Y83-J10	8040
BZY 83/C12	Q60225-Y83-J11	8041
BZY 83/C13	Q60225-Y83-J20	8042

Type	Ordering code	Stock No.
BZY 83/C15	Q60225-Y83-J13	8043
BZY 83/C16	Q60225-Y83-J21	8044
BZY 83/C18	Q60225-Y83-J15	8045
BZY 83/C20	Q60225-Y83-J16	8046
BZY 83/C22	Q60225-Y83-J17	8047
BZY 83/C24	Q60225-Y83-J22	8048
BZY 83/D1	Q60225-Y83-K1	7006
BZY 83/D4V7	Q60225-Y83-K2	8050
BZY 83/D5V6	Q60225-Y83-K3	8051
BZY 83/D6V8	Q60225-Y83-K4	8052
BZY 83/D8V2	Q60225-Y83-K5	8053
BZY 83/D10	Q60225-Y83-K6	8054
BZY 83/D12	Q60225-Y83-K7	8055
BZY 83/D15	Q60225-Y83-K8	8056
BZY 83/D18	Q60225-Y83-K9	8057
BZY 83/D22	Q60225-Y83-K10	8058
▼ CNY 17/0	Q62702-N1-S5	–
▼ CNY 17/I	Q62703-N1-S1	–
▼ CNY 17/II	Q62703-N1-S2	–
▼ CNY 17/III	Q62703-N1-S3	–
▼ CNY 17/IV	Q62703-N1-S4	–
▼ CNY 18/I	Q62703-N2-S1	–
▼ CNY 18/II	Q62703-N2-S2	–
▼ CNY 18/III	Q62703-N2-S3	–
▼ CNY 18/IV	Q62703-N2-S4	–
▼ CQY 17/IV	Q62703-Q89-S1	–
▼ CQY 17/V	Q62703-Q89-S2	–
▼ CQY 17/VI	Q62703-Q89-S3	–
▼ CQY 18/III	Q62703-Q90-S1	–
▼ CQY 18/IV	Q62703-Q90-S2	–
▼ CQY 18/V	Q62703-Q90-S3	–
▼ CQY 21	Q62703-Q56-F97	–
EA 218	Q64001-E218	–
F 74-35/15 x	Q63074-F2	8357
F 74-51/25 x	Q63074-F1	8358
F 75-34/14 u	Q63075-F9	8359
F 75-34/14 x	Q63075-F1	8360
F 75-41/21 u	Q63075-F2	8362
F 75-41/21 x	Q63075-F3	8361
F 75-46/23 u	Q63075-F4	8363
F 75-46/23 x	Q63075-F5	8560
F 75-54/32 s	Q63075-F8	–
F 75-54/32 u	Q63075-F6	8364
F 75-54/32 x	Q63075-F7	8561
FA 22 e	Q64001-F22-E	–
FA 24	Q64001-F24	–
FC 32	Q64003-F32	–
FC 33	Q64003-F33	–
FC 34	Q64003-F34	–
FP 17 D500E	Q65017-D500-E	8753
FP 17 L200E	Q65017-L200-E	7094
FP 17 L200J	Q65017-L200-J	7393
FP 30 D250E	Q65030-D250-E	8755
FP 30 L50E	Q65030-L50-E	8739
FP 30 L100E	Q65030-L100-E	8756
FP 30 L100J	Q65030-L100-J	7394
FP 30 N60E	Q65030-N60-E	7395
▼ FP 100 L100	Q65100-L100	7092
▼ FP 110 D155	Q65110-D155	7093
▼ FP 110 L60	Q65110-L60	7362
FP 111 L100	Q65111-L100	7366
▼ FP 200 L100	Q65200-L100-W	7363
▼ FP 210 D250	Q65210-D250-W	7364
▼ FP 210 L100	Q65210-L100-W	7365
GD 731	Q62601-X731	–
GD 732	Q62601-X732	–
GD 733	Q62601-X733	–
K 11/5%/50 Ohm	Q63011-K500-J	8365
K 11/5%/100 Ohm	Q63011-K101-J	8366
K 11/5%/200 Ohm	Q63011-K201-J	8367
K 11/5%/500 Ohm	Q63011-K501-J	8368
K 11/5%/1 K	Q63011-K102-J1	8369
K 11/5%/2 K	Q63011-K202-J	8370
K 11/5%/5 K	Q63011-K502-J	8371
K 11/5%/10 K	Q63011-K103-J	8372
K 11/5%/20 K	Q63011-K203-J	8373
K 11/5%/50 K	Q63011-K503-J	8374
K 11/5%/100 K	Q63011-K104-J	8375
K 11/10%/20 Ohm	Q63011-K200-K	8376
K 11/10%/50 Ohm	Q63011-K500-K	8377
K 11/10%/100 Ohm	Q63011-K101-K	8378
K 11/10%/200 Ohm	Q63011-K201-K	8379
K 11/10%/500 Ohm	Q63011-K501-K	8380

Type	Ordering code	Stock No.
K 11/10%/1 K	Q63011-K102-K1	8382
K 11/10%/2 K	Q63011-K202-K	8383
K 11/10%/5 K	Q63011-K502-K	8384
K 11/10%/10 K	Q63011-K103-K	8385
K 11/10%/20 K	Q63011-K203-K	8386
K 11/10%/50 K	Q63011-K503-K	8387
K 11/10%/100 K	Q63011-K104-K	8388
K 11/10%/500 K	Q63011-K504-K	8389
K 11/20%/10 Ohm	Q63011-K100-M	8390
K 11/10%/20 Ohm	Q63011-K200-M	8648
K 11/20%/50 Ohm	Q63011-K500-M	8391
K 11/20%/100 Ohm	Q63011-K101-M	8649
K 11/20%/200 Ohm	Q63011-K201-M	8650
K 11/20%/500 Ohm	Q63011-K501-M	8392
K 11/20%/1 K	Q63011-K102-M1	8393
K 11/20%/2 K	Q63011-K202-M	8394
K 11/20%/5 K	Q63011-K502-M	8395
K 11/20%/10 K	Q63011-K103-M	8396
K 11/20%/20 K	Q63011-K203-M	8651
K 11/20%/50 K	Q63011-K503-M	8652
K 11/20%/100 K	Q63011-K104-M	8397
K 11/20%/500 K	Q63011-K504-M	8398
■ K 13/10%/50 Ohm	Q63013-K500-K	–
■ K 13/10%/200 Ohm	Q63013-K201-K	–
■ K 13/10%/2 K	Q63013-K202-K	–
■ K 13/10%/50 K	Q63013-K503-K	–
K 15/20%/4 Ohm	Q63015-K40-M	8403
K 15/20%/50 Ohm	Q63015-K500-M	8404
K 15/20%/150 Ohm	Q63015-K151-M	8405
K 15/20%/500 Ohm	Q63015-K501-M	8406
K 15/20%/2 K	Q63015-K202-M	8407
K 15/20%/5 K	Q63015-K53-M	8408
K 17/10%/2,5 K	Q63017-K252-K	7103
K 17/10%/4 K	Q63017-K402-K	8410
K 17/10%/4 K-P 1	Q63017-K402-K1	–
K 17/10%/4 K-P 2	Q63017-K402-K2	–
K 17/10%/10 K	Q63017-K103-K	8412
K 17/10%/10 K-P 1	Q63017-K103-K1	–
K 17/10%/10 K-P 2	Q63017-K103-K2	–
K 17/10%/100 K-P 1	Q63017-K104-K1	–
K 17/10%/100 K-P 2	Q63017-K104-K2	–
K 17/10%/100 K	Q63017-K104-K	8411
K 17/20%/2,5 K	Q63017-K252-M	–
K 17/20%/4 K	Q63017-K402-M	8414
K 17/20%/4 K-P 1	Q63017-K402-M1	–
K 17/20%/4 K-P 2	Q63017-K402-M2	–
K 17/20%/10 K	Q63017-K103-M	8415
K 17/20%/10 K-P 1	Q63017-K103-M1	–
K 17/20%/10 K-P 2	Q63017-K103-M2	–
K 17/20%/100 K	Q63017-K104-M	8416
K 17/20%/100 K-P 1	Q63017-K104-M1	–
K 17/20%/100 K-P 2	Q63017-K104-M2	–
K 19/10%/12 K	Q63019-K123-K	7112
K 19/20%/12 K	Q63019-K123-M	8419
K 19/20%/12 K-P 1	Q63019-K123-M1	–
K 19/20%/12 K-P 2	Q63019-K123-M2	–
K 22/20%/1 K	Q63022-K102-M	8420
K 22/20%/10 K	Q63022-K103-M	8421
K 22/20%/40 K	Q63022-K403-M	8422
K 22/20%/250 K	Q63022-K254-M	8423
K 25/20%/10 Ohm	Q63025-K100-M	8424
K 25/20%/25 Ohm	Q63025-K250-M	8425
K 25/20%/60 Ohm	Q63025-K600-M	8426
K 25/20%/150 Ohm	Q63025-K151-M	8427
K 25/20%/240 Ohm	Q63025-K241-M	8562
K 25/20%/1 K	Q63025-K102-M	8428
K 25/20%/6 K	Q63025-K602-M	8429
K 26/20%/6 K	Q63026-K602-M	8430
K 26/20%/16 K	Q63026-K163-M	8431
K 29/10%/12 K	Q63029-K123-K	7116
K 29/10%/12 K-P 1	Q63029-K123-K1	–
K 29/10%/12 K-P 2	Q63029-K123-K2	–
K 29/20%/12 K	Q63029-K123-M	7113
K 29/20%/12 K-P 1	Q63029-K123-M1	–
K 29/20%/12 K-P 2	Q63029-K123-M2	–
▼ K 35/20%/40 Ohm	Q63035-K400-M	7132
▼ K 35/20%/1 K	Q63035-K1-M040	7225
▼ K 35/20%/6 K	Q63035-K6-M040	–
▼ K 35/20%/150 K	Q63035-K150-M040	–

▼ New Type ■ Not for new developments

Type	Ordering code	Stock No.
K 154/20%/4 Ohm	Q63015-K4040-M	8432
K 154/20%/10 Ohm	Q63015-K4100-M	8433
K 154/20%/20 Ohm	Q63015-K4200-M	8434
K 154/20%/40 Ohm	Q63015-K4400-M	8435
K 154/20%/100 Ohm	Q63015-K4101-M	8436
K 154/20%/150 Ohm	Q63015-K4151-M	8437
K 154/20%/250 Ohm	Q63015-K4251-M	8438
K 154/20%/500 Ohm	Q63015-K4501-M	8439
K 154/20%/1 K	Q62015-K4102-M	8440
K 154/20%/2 K	Q63015-K4202-M	8441
K 154/20%/5 K	Q63015-K4502-M	8442
K 154/20%/10 K	Q63015-K4103-M	8443
K 154/20%/25 K	Q63015-K4253-M	8563
K 154/20%/60 K	Q63015-K4603-M	8444
▼ K 164/20%/6,8 Ω	Q63016-K4006-M8	7414
▼ K 164/20%/10 Ω	Q63016-K4010-M	7415
▼ K 164/20%/15 Ω	Q63016-K4015-M	7416
▼ K 164/20%/22 Ω	Q63016-K4022-M	7417
▼ K 164/20%/33 Ω	Q63016-K4033-M	7418
▼ K 164/20%/47 Ω	Q63016-K4047-M	7419
▼ K 164/20%/68 Ω	Q63016-K4068-M	7420
▼ K 164/20%/100 Ω	Q63016-K4100-M	7421
▼ K 164/20%/150 Ω	Q63016-K4150-M	7422
▼ K 164/20%/220 Ω	Q63016-K4220-M	7423
▼ K 164/20%/330 Ω	Q63016-K4330-M	7424
▼ K 164/20%/470 Ω	Q63016-K4470-M	7425
▼ K 164/20%/680 Ω	Q63016-K6480-M	7426
▼ K 164/20%/1 K	Q63016-K4001-M40	7427
▼ K 164/20%/1,5 K	Q63016-K4001-M45	7428
▼ K 164/20%/2,2 K	Q63016-K4002-M42	7429
▼ K 164/20%/3,3 K	Q63016-K4003-M43	7430
▼ K 164/20%/4,7 K	Q63016-K4004-M47	7431
▼ K 164/20%/6,8 K	Q63016-K4006-M48	7432
▼ K 164/20%/10 K	Q63016-K4010-M40	7433
▼ K 164/20%/15 K	Q63016-K4015-M40	7434
▼ K 164/20%/22 K	Q63016-K4022-M40	7435
▼ K 164/20%/33 K	Q63016-K4033-M40	7436
▼ K 164/20%/47 K	Q63016-K4047-M40	7437
▼ K 164/20%/68 K	Q63016-K4068-M40	7438
▼ K 164/20%/100 K	Q63016-K4100-M40	7439
▼ K 220 S 1/2,5 K Ohm	Q63022-K302-S1	7440
▼ K 222 S 1/2,5 K Ohm	Q63022-K2-S1	7444
▼ K 222/20%/1 KΩ	Q63022-K2001-M40	7441
▼ K 222/20%/10 KΩ	Q63022-K2010-M40	7442
▼ K 222/20%/40 KΩ	Q63022-K2040-M40	7443
▼ K 227/5%/10 KΩ	Q63022-K7103-J	–
▼ K 228/25%/4,7 K	Q63022-K8004-N47	–
▼ K 228/25%/25 K	Q63022-K8025-N40	–
▼ K 228/25%/35 K	Q63022-K8035-N40	–
▼ K 228/25%/100 K	Q63022-K8100-N40	–
K 243/3,5%/9,4 K	Q63024-K3942	7445
K 252/10%/500 Ohm	Q63025-K2501-K	–
K 252/10%/1 K	Q63025-K2013-K	8445
K 252/10%/6 K	Q63025-K2063-K	8446
K 252/10%/40 K	Q63025-K2044-K	8447
K 252/20%/500 Ohm	Q63025-K2501-M	–
K 252/20%/1 K	Q63025-K2102-M	8448
K 252/20%/6 K	Q63025-K2063-M	8449
K 252/20%/40 K	Q63025-K2044-M	8450
▼ K 274/20%/1,25 K	Q63027-K125-M	8887
■ K 283/10%/1,25 K	Q63028-K3102-K	–
■ K 283/20%/1,25 K	Q63028-K1252-M	–
K 292/20%/100 K	Q63029-K2104-M	7123
K 292/20%/100 K-P 1	Q63029-K2104-M1	7446
K 292/20%/100 K-P 2	Q63029-K2104-M2	7447
KSM 2	Q64018-M2	′
▼ LD 30/B	Q62705-P21-F39	7367
▼ LD 30/C	Q62705-P22-F39	7368
▼ LD 40/I	Q62703-P2-F39	7369
▼ LD 40/II	Q62703-P3-F39	7370
▼ Mounting clip clear	Q62902-B84-F39	–
▼ Mounting clip black	Q62902-B85-F39	–
▼ Mounting ring black	Q62902-B110-F39	black

Type	Ordering code	Stock No.
▼ LD 50/I	Q62703-Q53-F97	7371
▼ LD 50/II	Q62703-Q54-F97	7372
▼ Mounting clip clear	Q62902-B104-F97	clear
▼ Mounting ring clear	Q62902-B105-F97	clear
▼ LD 260	Q62703-Q78	–
▼ LD 261/I	Q62703-Q63	–
▼ LD 261/II	Q62703-Q64	–
▼ LD 261/III	Q62703-Q65	–
▼ LD 261/IV	Q62703-Q66	–
▼ LD 262	Q62703-Q70	–
▼ LD 263	Q62703-Q71	–
▼ LD 264	Q62703-Q72	–
▼ LD 265	Q62703-Q73	–
▼ LD 266	Q62703-Q74	–
▼ LD 267	Q62703-Q75	–
▼ LD 268	Q62703-Q76	–
▼ LD 269	Q62703-Q77	–
▼ LD 460	Q62703-Q88	–
▼ LD 461	Q62703-Q79	–
▼ LD 462	Q62703-Q80	–
▼ LD 463	Q62703-Q81	–
▼ LD 464	Q62702-Q82	–
▼ LD 465	Q62703-Q83	–
▼ LD 466	Q62703-Q84	–
▼ LD 467	Q62703-Q85	–
▼ LD 468	Q62703-Q86	–
▼ LD 469	Q62703-Q87	–
M 81/20%/10 K	Q63081-M103-M	8729
M 81/10%/10 K	Q63081-M103-K	8728
M 812/20%/100 K	Q63081-M2104-M	7448
▼ M 820/S1/100 Ω	Q63082-M100-S1	–
▼ M 820/S1/1 KΩ	Q63082-M1-S140	–
▼ M 820/S1/2,2 KΩ	Q63082-M2-S142	–
▼ M 820/S1/10 KΩ	Q63082-M10-S140	–
▼ M 820 S1/80 Ohm	Q63082-M800-S1	7127
▼ M 831 S1/9,4 K	Q63083-M1009-S144	[1])
▼ M 831/10%/1 K	Q63083-M1001-K040	[1])
▼ M 831/10%/1,5 K	Q63083-M1001-K045	[1])
▼ M 831/10%/6,8 K	Q63083-M1006-K048	[1])
▼ M 831/10%/10 K	Q63083-M1010-K040	[1])
▼ M 832/10%/22 K	Q63083-M2022-K040	[1])
▼ M 832 S1/10%/1,8 K	Q63083-M2001-S148	[1])
▼ M 832 S1/10%/9,5 K	Q63083-M2009-S145	[1])
MB 26/EL 38	Q64002-M26-S1	–
R 51-4/1/20 b	Q63051-R5	8451
R 51-4/1/20 c	Q63051-R6	8452
R 51-4/1/20 d	Q63051-R7	8453
R 51-8/0,5/10 b	Q63051-R1	8454
R 51-8/0,5/10 c	Q63051-R2	8455
R 51-8/0,5/10 d	Q63051-R3	8456
RHY 10	Q61708-Y10	–
RHY 11	Q61708-Y11	–
RHY 15	Q61708-Y15	–
RHY 15 R	Q61708-Y15-R	–
RHY 17	Q61708-Y17	–
RHY 18	Q61708-Y18	–
RHY 18 S1	Q61708-Y18-S2	–
RHY 19	Q61708-Y19	–
RHY 20	Q61708-Y20	–
RMY 10	Q61712-Y10	–
RPY 60	Q62717-P3	–
RPY 61	Q62717-P4	–
RPY 62	Q62717-P5	–
RPY 63	Q62717-P6	–
RPY 64	Q62717-P7	–
SBV 525	Q64099-V525	–
SBV 552	Q64099-V552	–
SBV 566	Q64099-V566	8687

Type	Gain group range (B) [β]	Ordering code	Stock No.
▼ SBV 570		Q64099-V570	–
▼ SBV 579		Q64099-V579	–
▼ SBV 595		Q64099-V595	–
SV 110/II		Q64021-S110-S2	–
SV 110/III		Q64021-S110-S3	–
SV 130/I		Q64021-S130-S1	–
SV 130/II		Q64021-S130-S2	–
SV 130/III		Q64021-S130-S3	–
▼ SV 200/I	single chip	Q62801-F1	–
▼ SV 200/II	single chip	Q62801-F2	–
▼ SV 200/III	single chip	Q62801-F3	–
▼ SV 200/I	with connect. wires	Q64021-S200-S4	–
▼ SV 200/II	with connect. wires	Q64021-S200-S5	–
▼ SV 200/III	with connect. wires	Q64021-S200-S6	–
▼ SV 200/I	with soldering taps	Q64021-S200-S7	–
▼ SV 200/II	with soldering taps	Q64021-S200-S8	–
▼ SV 200/III	with soldering taps	Q64021-S200-S9	–
SV 210		Q64021-S210	–
SV 230 S		Q64021-S230S	–
TC 21		Q64003-T21	–
TF 78/30 II	(30-45)	Q62606-X3078-X2	8325
TF 78/30 III	(45-67)	Q62606-X3078-X3	8326
TF 78/30 IV	(67-100)	Q62606-X3078-X4	8327
TF 78/30 V	(100-150)	Q62606-X3078-X5	8328
TF 78/30 yellow		Q62606-P3078	8329
TF 78/60 II	(30-45)	Q62606-X6087-X2	8330
TF 78/60 III	(45-67)	Q62606-X6078-X3	8331
TF 78/60 IV	(67-100)	Q62606-X6078-X4	8332
TF 78/60 V	(100-150)	Q62606-X6078-X5	8333
Mounting plate TF 78/30		Q62901-B2-A	8337
Washer TF 78/60		Q62901-B2-B	8338
TP 60		Q62607-S60	8104
TP 61		Q62607-S61	8105
TU 205/5		Q62701-E20	–
TU 205/10		Q62701-E22	–
TU 210/5		Q62701-E16	–
TU 210/10		Q62701-E23	–
TU 220/5		Q62701-E24	–
TU 220/10		Q62701-E25	–
TU 300		Q62701-E36	–
TU 301		Q62701-E26	–
TU 302		Q62701-E27	–
TU 305/5		Q62701-E28	–
TU 305/10		Q62701-E29	–
TU 310/5		Q62701-E30	–
TU 310/10		Q62701-E31	–
TU 320/5		Q62701-E32	–
TU 320/10		Q62701-E33	–
TU 410/5		Q62701-E34	–
TU 410/10		Q62701-E35	–
▼ 2 N 3054-4	(25-60)	Q62702-U116-V1	7163
▼ 2 N 3054-6	(40-100)	Q62702-U116-V2	7203
Mica disc		Q62902-B11-A	7229
Nipple		Q62902-B11-B	7230
f. 2 N 3054	(TO-66)		
■ 2 N 3054 S-4	(25-60)	Q62702-U57-V1	–
■ 2 N 3054 S-6	(40-100)	Q62702-U57-V2	–
Mica disc		Q62901-B16-A	8342
Nipple (Teflon)		Q62901-B13-C	8566
2 N 3055	(20-70)	Q62702-U58-F100	8858
2 N 3055 match.		Q62702-U58-P	8859
Mica disc		Q62901-B11-A	8339
Nipple (Teflon)		Q62901-B13-C	8566
▼ 2 N 3442	(20-70)	Q62702-U59-F100	7064
▼ 2 N 4347	(20-70)	Q62702-U38-F100	7063
▼ 2 N 3441		Q62702-D34	–

▼ New Type ■ Not for new developments [1]) With cable of 2.1 m length

Ordering Code Index (alphanumercial and according to ordering code numbers) for all discrete semiconductor components listed in this book (pages 2-44)

Mountings, mica discs and nipples will be found at end of this list.

Ordering code	Stock No.	Type	Gain group range (B) [β]
C66055-A6103-B3		(heat sink) FK 04	
C66055-A6104-B2		(heat sink) HK 04	
C66060-A2399-A1		BUY 26	
C66060-A2399-A2		BUY 27	
C66060-A2399-A3		BUY 28	
Q60101-X113-X1	8001	AA 113	
Q60101-X113-P1	8002	AA 113 match.	
Q60101-X-116	8004	AA 116	
Q60101-X116-P	8005	AA 116 match.	
Q60101-X117	8007	AA 117	
Q60101-X118	8010	AA 118	
Q60101-X118-P	8009	AA 118 match.	
Q60101-X119	—	■ AA 119	
Q60101-X119-P	8538	AA 119 match.	
Q60101-Y27	8012	AAY 27	
Q60101-Y28	7001	AAY 28	
Q60101-Y43	7002	AAY 43	
Q60101-Y53	—	■ AAY 53	
Q60101-Y54	—	■ AAY 54	
Q60101-Y55	—	■ AAY 55	
Q60103-D121	8106	AC 121 IV	(30-60)
Q60103-E121	8108	AC 121 V	(50-100)
Q60103-F121	8110	AC 121 VI	(75-150)
Q60103-G121	8112	AC 121 VII	(125-250)
Q60103-P121-X1	8114	AC 121 match.	
Q60103-P153-A	7021	AC 153/AC 176 match.	
Q60103-P153-B	8155	AC 153 K/AC 176 K match.	
Q60103-X151-D	8116	AC 151 IV	[30-60]
Q60103-X151-D1	8118	AC 151 IVr	[30-60]
Q60103-X151-E	8120	AC 151 V	[50-100]
Q60103-X151-E1	8122	AC 151 Vr	[50-100]
Q60103-X151-F	8125	AC 151 VI	[75-150]
Q60103-X151-F1	8126	AC 151 VIr	[75-150]
Q60103-X151-G	8128	AC 151 VII	[125-250]
Q60103-X152-D	8135	AC 152 IV	(30-60)
Q60103-X152-E	8137	AC 152 V	(50-100)
Q60103-X152-F	8139	AC 152 VI	(75-150)
Q60103-X152-P	8141	AC 152 match.	
Q60103-X152-S12	8132	AC 152 Kompl. match.	
Q60103-X153-E	8143	AC 153 V	(50-100)
Q60103-X153-E1	8151	AC 153 KV	(50-100)
Q60103-X153-F	8145	AC 153 VI	(75-150)
Q60103-X153-F1	8153	AC 153 K VI	(75-150)
Q60103-X153-G	8147	AC 153 VII	(125-250)
Q60103-X153-G1	8154	AC 153 K VII	(125-250)
Q60103-X153-P	8149	AC 153 match.	
Q60103-X153-P1	8152	AC 153 K match.	
Q60103-X162	8157	AC 162	[80-170]
Q60103-X163	8158	AC 163	[130-300]
Q60103-X176	7016	AC 176	(50-250)
Q60103-X176-K	7015	AC 176 K	
Q60103-X187-K	7019	AC 187 K	(100-500)
Q60103-X188-S14	8160	AC 187 K/AC 188 K match.	
Q601-X188-K	8003	AC 188 K	(100-500)
Q60103-X188-P2	8159	AC 188 K match.	
Q60103-Y23-E	8162	ACY 23 V	(20-40)
Q60103-Y23-F	8163	ACY 23 VI	(30-60)
Q60103-Y32-E	8164	ACY 32 V	(50-100)
Q60103-Y32-F	8165	ACY 32 VI	(75-150)
Q60103-Y33-F	8167	ACY 33 VI	(75-150)
Q60103-Y33-G	8168	ACY 33 VII	(125-250)
Q60103-Y33-H	8576	ACY 33 VIII	(175-350)
Q60103-Y33-P	8169	ACY 33 match.	
Q60104-C130	8170	AD 130 III	(20-40)
Q60104-D130	8171	AD 130 IV	(30-60)
Q60104-E130	7022	AD 130 V	(50-100)
Q60104-X130-P	8173	AD 130 match.	
Q60104-C131	8174	AD 131 III	(20-40)
Q60104-D131	8175	AD 131 IV	(30-60)
Q60104-E131	7023	AD 131 V	(50-100)
Q60104-X131-P	8177	AD 131 match.	
Q60104-C132	8178	AD 132 III	(20-40)
Q60104-D132	8179	AD 132 IV	(30-60)
Q60104-E132	7024	AD 132 V	(50-100)
Q60104-X132-P	7025	AD 132 match.	
Q60104-C133	8183	AD 133 III	(20-40)
Q60104-D133	8182	AD 133 IV	(30-60)
Q60104-E133	8507	AD 133 V	(50-100)
Q60104-D136	—	AD 136 IV	(30-60)
Q60104-E136	8186	AD 136 V	(50-100)
Q60104-F136	8573	AD 136 VI	(75-150)
Q60104-X148-D	8187	■ AD 148 IV	(30-60)
Q60104-X148-E	8188	■ AD 148 V	(50-100)
Q60104-X148-P	8189	■ AD 148 match.	
Q60104-X149-D	8190	AD 149 IV	(30-60)
Q60104-X149-E	—	AD 149 V	(50-100)
Q60104-X149-P	7026	AD 149 match.	
Q60104-X150-D	8192	AD 150 IV	(30-60)

Ordering code	Stock No.	Type	Gain group range (B) [β]
		Diode capacitance (C_D in pF)	
Q60104-X150-E	8193	AD 150 V	(50-100)
Q60104-X150-P	8194	AD 150 match.	
Q60104-X161	7017	AD 161	(50-350)
Q60104-P161-P	—	AD 161 match.	
Q60104-P161-A	8195	AD 161/AD 162 compl. match.	
Q60104-X162-E	8197	AD 162 V	(50-100)
Q60104-X162-F	8198	AD 162 VI	(75-150)
Q60104-X162-G	8199	AD 162 VII	(125-250)
Q60104-X162-H	8574	AD 162 VIII	(175-350)
Q60104-X162-P	8200	AD 162 match.	
Q60104-X163-B	8201	AD 163 II	(12,5-25)
Q60104-X163-C	8202	AD 163 III	(20-40)
Q60104-X163-D	8203	AD 163 IV	(30-60)
Q60104-Y27-D	—	ADY 27 IV	(30-60)
Q60104-Y27-E	—	ADY 27 V	(50-100)
Q60104-Y27-P	—	ADY 27 match.	
Q60106-X106	8207	AF 106	
Q60106-X109-R1	8210	AF 109 R	
Q60106-X139	8221	AF 139	
Q60106-X200-S8	8870	▼ AF 200 U	
Q60106-X201-S22	8871	▼ AF 201 U	
Q60106-X239	8231	AF 239	
Q60106-X240	—	AF 240	
Q60106-Y11	—	AFY 11	
Q60106-Y12	8234	AFY 12	
Q60106-Y16	8235	AFY 16	
Q60106-Y18-C	8236	AFY 18 C	[40-120]
Q60106-Y18-D	8580	AFY 18 D	[100-300]
Q60106-Y18-E	8237	AFY 18 E	[200-600]
Q60106-Y37	—	AFY 37	
Q60106-Y42	8240	AFY 42	
Q60106-Y39		AFY 39	
Q60115-Y12-X1	—	■ APY 12/I	
Q60115-Y12-X2	—	■ APY 12/II	
Q60115-Y12-X3	—	■ APY 12/III	
Q60115-Y13-S1	—	■ APY 13/I	
Q60115-Y13-S2	—	■ APY 13/II	
Q60115-Y13-S3	—	■ APY 13/III	
Q60118-Y26	8241	ASY 26	
Q60118-Y27	8242	ASY 27	
Q60118-Y48-D	8243	ASY 48 IV	(30-60)
Q60118-Y48-E	8244	ASY 48 V	(50-100)
Q60118:Y48-F	8510	ASY 48 VI	(75-150)
Q60118-Y70-D	8245	ASY 70 IV	(30-60)
Q60118-Y70-E	8246	ASY 70 V	(50-100)
Q60118-Y70-F	8247	ASY 70 VI	(75-150)
Q60120-Y18-D	8249	AUY 18 IV	(30-60)
Q60120-Y18-E	8508	AUY 18 V	(50-100)
Q60120-Y19-C	8250	AUY 19 III	(20-40)
Q60120-Y19-D	8251	AUY 19 IV	(30-60)
Q60120-Y19-E	—	AUY 19 V	(50-100)
Q60120-Y20-C	8253	AUY 20 III	(20-40)
Q60120-Y20-D	8254	AUY 20 IV	(30-60)
Q60120-Y20-E	—	AUY 20 V	(50-100)
Q60120-Y21-B	8575	AUY 21 II	(12,5-25)
Q60120-Y21-C	8256	AUY 21 III	(20-40)
Q60120-Y21-D	8257	AUY 21 IV	(30-60)
Q60120-Y22-B	8258	AUY 22 II	(12,5-25)
Q60120-Y22-C	8259	AUY 22 III	(20-40)
Q60120-Y22-D	8260	AUY 22 IV	(30-60)
Q60120-Y29-C	8261	AUY 29 III	(20-40)
Q60120-Y29-D	8262	AUY 29 IV	(30-60)
Q60120-Y29-E	8509	AUY 29 V	(50-100)
Q60120-Y29-P	—	AUY 29 match.	
Q60120-Y34-B	8263	AUY 34 II	(12,5-25)
Q60120-Y34-C	8264	AUY 34 III	(20-40)
Q60120-Y34-D	8265	AUY 34 IV	(30-60)
Q60201-X103	7003	BA 103	
Q60201-X104	8015	BA 104	
Q60201-X105	8016	BA 105	
Q60201-X108	8017	BA 108	
Q60201-X127	8019	BA 127	
Q60201-X127-D9	—	▼ BA 127 D	
Q60201-X138-B	8021	BA138(green)	((3,8-4,9))
Q60201-X138-C	—	BA138(red)	((4,4-4,9))
Q60201-X138-A	8022	BA138(blue)	((4,4-5,5))
Q60201-Y41	8023	BAY 41	
Q60201-Y42	8024	BAY 42	
Q60201-Y43	8025	BAY 43	
Q60201-Y44	8026	BAY 44	
Q60201-Y45	8027	BAY 45	
Q60201-Y46	8028	BAY 46	
Q60201-Y60	7004	■ BAY 60	
Q60201-Y63	7005	■ BAY 63	

Ordering code	Stock No.	Type	Gain group range (B) [β]
Q60203-X107-A	8266	BC 107 A	(120-220)
Q60203-X107-B	8268	BC 107 B	(180-460)
Q60203-X108-A	8270	BC 108 A	(120-220)
Q60203-X108-B	8272	BC 108 B	(180-460)
Q60203-X109-B	8275	BC 109 B	(180-460)
Q60203-X109-C	8277	BC 109 C	(380-800)
Q60203-X121-X9	8279	BC121 white	[75-150]
Q60203-X121-X4	8280	BC121 yell.	[125-260]
Q60203-X121-S6	8281	BC121 green	[240-500]
Q60203-X121-X6	8282	BC121 blue	[450-900]
Q60203-X122-X9	8284	BC122 white	[75-150]
Q60203-X122-X4	8283	BC122 yell.	[125-260]
Q60203-X122-X10	8286	BC122 green	[240-500]
Q60203-X122-X6	8285	BC122 blue	[450-900]
Q60203-X123-X9	8287	BC123 white	[75-150]
Q60203-X123-X4	8288	BC123 yell.	[125-260]
Q60203-X123-X5	8289	BC123 green	[240-500]
Q60203-X140-V6	8569	BC 140-6	(40-100)
Q60203-X140-V10	8512	BC 140-10	(63-160)
Q60203-X140-V16	8513	BC 140-16	(100-250)
Q60203-X140-P	7027	BC 140 match. BC 140/BC 160	
Q60203-X147-A	8514	BC 147 A	(120-220)
Q60203-X147-B	8515	BC 147 B	(180-460)
Q60203-X148-A	8516	BC 148 A	(120-220)
Q60203-X148-B	8517	BC 148 B	(180-460)
Q60203-X148-C	8518	BC 148 C	(380-800)
Q60203-X149-B	8519	BC 149 B	(180-460)
Q60203-X149-C	8520	BC 149 C	(380-800)
Q60203-Y58-G	8290	BCY 58 VII	(120-220)
Q60203-Y58-H	8291	BCY 58 VIII	(180-310)
Q60203-Y58-J	8292	BCY 58 IX	(250-460)
Q60203-Y58-K	8293	BCY 58 X	(380-630)
Q60203-Y59-G	8294	BCY 59 VII	(120-220)
Q60203-Y59-H	8295	BCY 59 VIII	(180-310)
Q60203-Y59-J	8296	BCY 59 IX	(250-460)
Q60203-Y59-K	8297	BCY 59 X	(380-630)
Q60203-Y65-E7	8298	BCY 65 E VII	(120-220)
Q60203-Y65-E8	8299	BCY 65 E VIII	(180-310)
Q60203-Y65-E9	8300	BCY 65 E IX	(250-460)
Q60203-Y66	8302	BCY 66	(180-630)
Q60203-Y78-G	8612	BCY 78 VII	(120-220)
Q60203-Y78-H	8613	BCY 78 VIII	(180-310)
Q60203-Y78-J	8614	BCY 78 IX	(250-460)
Q60203-Y78-K	—	BCY 78 X	(380-630)
Q60203-Y79-G	8615	BCY 79 VII	(120-220)
Q60203-Y79-H	8616	BCY 79 VIII	(180-310)
Q60203-Y79-J	8617	BCY 79 IX	(250-460)
Q60204-Y12-B	8851	BDY 12-6	(40-100)
Q60204-Y12-C	8852	BDY 12-10	(63-160)
Q60204-Y13-B	8854	BDY 13-6	(40-100)
Q60204-Y13-C	8855	BDY 13-10	(63-160)
Q60206-X55	8713	BFX 55	
Q60206-X59	8714	BFX 59	
Q60206-X59-S5	8884	BFX 59 F	
Q60206-X60	8625	BFX 60	
Q60206-X62	8846	BFX 62	
Q60215-X100	8099	BP 100	
Q60215-Y11	8100	BPY 11	
Q60215-Y11-X10	7086	BPY 11 I	
Q60215-Y11-X11	7087	BPY 11 II	
Q60215-Y11-X12	7088	BPY 11 III	
Q60215-Y43	8101	BPY 43	
Q60215-Y44	8102	BPY 44	
Q60215-Y45	8103	BPY 45	
Q60215-Y47	8551	BPY 47	
Q60215-Y48	8552	BPY 48	
Q60215-Y61-S1	8556	BPY 61 I	
Q60215-Y61-S2	8557	BPY 61 II	
Q60215-Y61-S3	8558	BPY 61 III	
Q60215-Y62-A	8567	BPY 62 I	
Q60215-Y62-B	8553	BPY 62 II	
Q60215-Y62-C	8568	BPY 62 III	
Q60215-Y63	8554	BPY 63	
Q60215-Y64	8555	BPY 64	
Q60217-Y20	8315	BRY 20	
Q60218-X45-V6	8627	BSX 45-6	(40-100)
Q60218-X45-V10	8528	BSX 45-10	(63-160)
Q60218-X45-V16	8628	BSX 45-16	(100-250)
Q60218-X46-V6	8629	BSX 46-6	(40-100)
Q60218-X46-V10	8529	BSX 46-10	(63-160)
Q60218-X46-V16	8630	BSX 46-16	(100-250)
Q60218-X47-V6	7048	BSX 47-6	(40-100)
Q60218-X47-V10	7049	BSX 47-10	(63-160)
Q60218-X48	8530	BSX 48	

▼ New Type ■ Not for new developments

Ordering code	Stock No.	Type	Gain group range (B) [β]
Q60218-X49	8531	**BSX 49**	
Q60218-X62-B	8631	**BSX 62-6**	(40-100)
Q60218-X62-C	8632	**BSX 62-10**	(63-160)
Q60218-X62-D	8633	**BSX 62-16**	(100-250)
Q60218-X63-B	8634	**BSX 63-6**	(40-100)
Q60218-X63-C	8635	**BSX 63-10**	(63-160)
Q60218-Y17	8316	**BSY 17**	
Q60218-Y18	8317	**BSY 18**	
Q60218-Y34	8318	**BSY 34**	
Q60218-Y58	8319	**BSY 58**	
Q60218-Y62-A	8320	**BSY 62 A**	(20-60)
Q60218-Y62-B	8715	**BSY 62 B**	(30-300)
Q60218-Y63	8321	**BSY 63**	
Q60223-Y16-V1	—	**BXY 16 B**	
Q60223-Y16-C1	—	**BXY 16 C 1**	
Q60223-Y16-C2	—	**BXY 16 C 2**	
Q60223-Y19-E	—	**BXY 19 E**	
Q60223-Y19-F	—	**BXY 19 F**	
Q60223-Y10-A	—	▼ **BXY 10 A**	
Q60223-Y10-B	—	▼ **BXY 10 B**	
Q60223-Y10-C	—	**BXY 10 C**	
Q60223-Y10-D	—	**BXY 10 D**	
Q60223-Y11-E	—	**BXY 11 E**	
Q60223-Y11-F	—	▼ **BXY 11 F**	
Q60223-Y11-G1	—	**BXY 11 GA**	
Q60223-Y13-B	—	▼ **BXY 13 B**	
Q60223-Y13-C	—	**BXY 13 C**	
Q60223-Y13-D	—	**BXY 13 D**	
Q60223-Y14-E	—	**BXY 14 E**	
Q60223-Y14-F	—	▼ **BXY 14 F**	
Q60223-Y19-G2	—	**BXY 19 GB**	
Q60223-Y22-G	—	**BXY 22 G**	
Q60223-Y22-H	—	**BXY 22 H**	
Q60223-Y22-J	—	**BXY 22 J**	
Q60223-Y23	—	**BXY 23**	
Q60225-Y83-J1	8031	**BZY 83/C 4 V 7**	
Q60225-Y83-J2	8032	**BZY 83/C 5 V 1**	
Q60225-Y83-J3	8033	**BZY 83/C 5 V 6**	
Q60225-Y83-J4	8034	**BZY 83/C 6 V 2**	
Q60225-Y83-J5	8035	**BZY 83/C 6 V 8**	
Q60225-Y83-J6	8036	**BZY 83/C 7 V 5**	
Q60225-Y83-J7	8037	**BZY 83/C 8 V 2**	
Q60225-Y83-J8	8038	**BZY 83/C 9 V 1**	
Q60225-Y83-J9	8039	**BZY 83/C 10**	
Q60225-Y83-J10	8040	**BZY 83/C 11**	
Q60225-Y83-J11	8041	**BZY 83/C 12**	
Q60225-Y83-J20	8042	**BZY 83/C 13**	
Q60225-Y83-J13	8043	**BZY 83/C 15**	
Q60225-Y83-J21	8044	**BZY 83/C 16**	
Q60225-Y83-J15	8045	**BZY 83/C 18**	
Q60225-Y83-J16	8046	**BZY 83/C 20**	
Q60225-Y83-J17	8047	**BZY 83/C 22**	
Q60225-Y83-J22	8048	**BZY 83/C 24**	
Q60225-Y83-K1	7006	**BZY 83/D 1**	
Q60225-Y83-K2	8050	**BZY 83/D 4 V 7**	
Q60225-Y83-K3	8051	**BZY 83/D 5 V 6**	
Q60225-Y83-K4	8052	**BZY 83/D 6 V 8**	
Q60225-Y83-K5	8053	**BZY 83/D 8 V 2**	
Q60225-Y83-K6	8054	**BZY 83/D 10**	
Q60225-Y83-K7	8055	**BZY 83/D 12**	
Q60225-Y83-K8	8056	**BZY 83/D 15**	
Q60225-Y83-K9	8057	**BZY 83/D 18**	
Q60225-Y83-K10	8058	**BZY 83/D 22**	
Q61708-Y10	—	**RHY 10**	
Q61708-Y11	—	**RHY 11**	
Q61708-Y15	—	**RHY 15**	
Q61708-Y15-R	—	**RHY 15 R**	
Q61708-Y17	—	**RHY 17**	
Q61708-Y18	—	**RHY 18**	
Q61708-Y18-S2	—	**RHY 18 S 1**	
Q61708-Y19	—	**RHY 19**	
Q61708-Y20	—	**RHY 20**	
Q61712-Y10	—	**RMY 10**	
Q62601-X731	—	**GD 731**	
Q62601-X732	—	**GD 732**	
Q62601-X733	—	**GD 733**	
Q62606-X3078-X2	—	**TF 78/30 II**	(30-45)
Q62606-X3078-X3	—	**TF 78/30 III**	(45-67)
Q62606-X3078-X4	—	**TF 78/30 IV**	(67-100)
Q62606-X3078-X5	—	**TF 78/30 V**	(100-150)
Q62606-P3078	—	**TF 78/30 match.**	
Q62606-X6078-X2	—	**TF 78/60 II**	(30-45)
Q62606-X6078-X3	—	**TF 78/60 III**	(45-67)
Q62606-X6078-X4	—	**TF 78/60 IV**	(67-100)
Q62606-X6078-X5	—	**TF 78/60 V**	(100-150)
Q62607-S60	8104	**TP 60**	

Ordering code	Stock No.	Type	Gain group range (B) [β] ((C_D in pF))
Q62607-S61	8105	**TP 61**	
Q62701-A100	—	**Adapter for AAY 53, 54, 55**	
Q62701-E12	—	**AEY 30 A**	
Q62701-E13	—	**AEY 30 B**	
Q62701-E14	—	**AEY 30 C**	
Q62701-E16	—	**TU 210/5**	
Q62701-E21	—	**AEY 30 D**	
Q62701-E20	—	**TU 205/5**	
Q62701-E22	—	**TU 205/10**	
Q62701-E23	—	**TU 210/10**	
Q62701-E24	—	**TU 220/5**	
Q62701-E25	—	**TU 220/10**	
Q62701-E26	—	**TU 301**	
Q62701-E27	—	**TU 302**	
Q62701-E28	—	**TU 305/5**	
Q62701-E29	—	**TU 305/10**	
Q62701-E30	—	**TU 310/5**	
Q62701-E31	—	**TU 310/10**	
Q62701-E32	—	**TU 320/5**	
Q62701-E33	—	**TU 320/10**	
Q62701-E34	—	**TU 410/5**	
Q62701-E35	—	**TU 410/10**	
Q62701-E36	—	**TU 300**	
Q62701-F51	8581	**AF 239 S**	
Q62701-F52	8582	**AF 279**	
Q62701-F50	8583	**AF 280**	
Q62701-F72	7018	▼ **AF 379**	
Q62701-F82	7300	▼ **AF 306**	
Q60702-A347	7014	**BA 182**	
Q62702-A389	8579	**BAY 61**	
Q62702-A396	8645	**BAW 75**	
Q62702-A397	8646	**BAW 76**	
Q62702-A485	7013	▼ **BA 379**	
Q62702-A498	—	**BAV 74**	
Q62702-A505	8020	▼ **BA 133 F**	
Q62702-B4	8722	**BB 103 (green)**	((27-31))
Q62702-B2	8723	**BB 103 (blue)**	((29-33))
Q62702-B6	8637	**BB 104 (green)**	((34-39))
Q62702-B5	8638	**BB 104 (blue)**	((37-42))
Q62702-B11	—	**BB 105 A**	((2,3-2,8))
Q62702-B11-S4	8647	**BB 105 A quart.**	
Q62702-B11-S2	8639	**BB 105 A terz.**	
Q62702-B12	—	**BB 105 B**	((2,0-2,3))
Q62702-B12-S2	8640	**BB 105 B terz.**	
Q62702-B12-S3	8604	**BB 105 B quart.**	
Q62702-B13	—	**BB 105 G**	((1,8-2,8))
Q62702-B13-S1	8641	**BB 105 G terz.**	
Q62702-B17-S1	—	**BB 109 G (yell.)**	((4,3-6))
Q62702-B17-P5	8750	**BB 109 G terz.**	
Q62702-B17-P4	—	**BB 109 G quart.**	
Q62702-B20	—	**BBY 24**	
Q62702-B21	—	**BBY 25**	
Q62702-B22	—	**BBY 26**	
Q62702-B23	—	**BBY 27**	
Q62702-B28	7077	**BP 101 I**	
Q62702-B35	8752	**BP 101 II**	
Q62702-B29	7078	**BP 101 III**	
Q62702-B41	8091	**BB 113**	
Q62702-B42	–	**BBY 29**	
Q62702-B44	–	**BBY 30**	
Q62702-C74	8521	**BC 167 A**	(120-220)
Q62702-C75	8522	**BC 167 B**	(180-460)
Q62702-C76	8523	**BC 168 A**	(120-220)
Q62702-C77	8524	**BC 168 B**	(180-460)
Q62702-C78	8525	**BC 168 C**	(380-800)
Q62702-C79	8526	**BC 169 B**	(180-460)
Q62702-C80	8527	**BC 169 C**	(380-800)
Q62702-C141	8585	**BC 177 A**	(125-260)
Q62702-C142	8793	**BC 177 B**	(240-500)
Q62702-C145	—	**BC 179 C**	(380-800)
Q62702-C153	8587	**BC 178 A**	(125-260)
Q62702-C154	8588	**BC 178 B**	(240-500)
Q62702-C155	—	**BC 178 C**	(380-800)

Ordering code	Stock No.	Type	Gain group range (B) [β]
Q62702-C152	8559	**BC 110**	
Q62702-C157	8594	**BC 158 A**	(125-260)
Q62702-C158	8595	**BC 158 B**	(240-500)
Q62702-C161	8597	**BC 159 B**	(240-500)
Q62702-C162	8592	**BC 157 A**	(125-260)
Q62702-C163	8792	**BC 157 B**	(240-500)
Q62702-C166	8605	**BC 201 red**	[50-100]
Q62702-C167	8606	**BC 201 white**	[75-150]
Q62702-C168	8607	**BC 201 yell.**	[125-260]
Q62702-C171	8609	**BC 202 red**	[50-100]
Q62702-C172	8610	**BC 202 white**	[75-150]
Q62702-C173	8881	**BC 202 yell.**	[125-260]
Q62702-C176	8882	**BC 203 red**	[50-100]
Q62702-C177	8883	**BC 203 white**	[75-150]
Q62702-C178	7253	**BC 203 yell.**	[125-260]
Q62702-C184	8599	**BC 257 A**	(125-260)
Q62702-C187	8601	**BC 258 A**	(126-260)
Q62702-C188	8602	**BC 258 B**	(240-500)
Q62702-C192	8872	**BC 259 B**	(240-500)
Q62702-C206	8794	**BC 257 B**	(240-500)
Q62702-C209	7028	**BC 141 match.**	
Q62702-C228-P	—	**BC 160 match.**	
Q62702-C228-S2	8769	**BC 160/BC 140 compl. match.**	
Q62702-C228-V6	8741	**BC 160-6**	(40-100)
Q62702-C228-V10	8742	**BC 160-10**	(63-160)
Q62702-C228-V16	8743	**BC 160-16**	(100-250)
Q62702-C230	8744	**BC 161-6**	(40-100)
Q62702-C230-P	—	**BC 161 match.**	
Q62702-C230-S2	8770	**BC 161/BC 141 compl. match.**	
Q62702-C231	8745	**BC 161-10**	(63-160)
Q62702-C234	8570	**BC 141-6**	(40-100)
Q62702-C235	8571	**BC 141-10**	(63-160)
Q62702-C236	8572	**BC 141-16**	(100-250)
Q62702-C239	8746	**BC 161-16**	(100-250)
Q62702-C254	8841	**BCY 67**	(180-630)
Q62702-C276	8826	**BC 237 A**	(125-260)
Q62702-C277	8827	**BC 237 B**	(240-500)
Q62702-C278	8828	**BC 238 A**	(125-260)
Q62702-C279	8829	**BC 238 B**	(240-500)
Q62702-C280	8830	**BC 238 C**	(450-900)
Q62702-C281	8831	**BC 239 B**	(240-500)
Q62702-C282	8832	**BC 239 C**	(450-900)
Q62702-C283	8795	**BC 307 A**	(125-260)
Q62702-C285	8797	**BC 308 A**	(125-260)
Q62702-C286	8798	**BC 308 B**	(240-500)
Q62702-C289	8800	**BC 309 B**	(240-500)
Q62702-C303	8590	**BC 179 B**	(240-500)
Q62702-C310	8608	**BC 201 green**	[240-500]
Q62702-C311-V3	8801	**BC 327-16**	(100-250)
Q62702-C311-V4	8802	**BC 327-25**	(160-400)
Q62702-C311-V2	8803	**BC 327-40**	(250-630)
Q62702-C312-V3	8804	**BC 328-16**	(100-250)
Q62702-C312-V4	8805	**BC 328-25**	(160-400)
Q62702-C312-V2	8806	**BC 328-40**	(250-630)
Q62702-C313-V3	8833	**BC 337-16**	(100-250)
Q62702-C313-V1	8834	**BC 337-25**	(160-400)
Q62702-C313-V2	8835	**BC 337-40**	(250-630)
Q62702-C314-V1	8836	**BC 338-16**	(100-250)
Q62702-C314-V2	8837	**BC 338-25**	(160-400)
Q62702-C314-V3	8838	**BC 338-40**	(250-630)
Q62702-C323	7255	**BC 309 C**	(380-800)
Q62702-C324	8879	**BC 307 B**	(240-500)
Q62702-C327-V1	8346	**BCY 77 VII**	(120-220)
Q62702-C327-V2	8349	**BCY 77 VIII**	(180-310)
Q62702-C327-V3	8350	**BCY 77 IX**	(250-460)
Q62702-C331	8847	**BCW 60 AA**	(120-220)
Q62702-C332	8848	**BCW 60 AB**	(180-310)
Q62702-C333	8849	**BCW 60 AC**	(250-460)
Q62702-C334	8850	**BCW 60 AD**	(380-630)
Q62702-C335	8842	**BCW 61 BA**	(120-220)
Q62702-C336	8843	**BCW 61 BB**	(180-310)
Q62702-C337	8844	**BCW 61 BC**	(250-460)
Q62702-C338	8845	**BCW 61 BD**	(380-630)
Q62702-C366-S1	8839	**BC 327/BC 337 compl. match.**	
Q62702-C367-S1	8840	**BC 328/BC 338 compl. match.**	
Q62702-C369	–	**BCW 87**	
Q62702-C370	–	**BCW 88**	
Q62702-C372	7044	**BC 182 A**	(120-220)
Q62702-C373	7045	**BC 182 B**	(180-460)
Q62702-C374-V1	7029	**BC 212 A**	(120-220)
Q62702-C374-V2	7030	**BC 212 B**	(180-460)
Q62702-C375-V1	8213	**BC 413 B**	(180-460)

▼ New Type ■ Not for new developments

Ordering code	Stock No.	Type	Gain group range (B) [β]
Q62702-C375-V2	8215	**BC 413 C**	(380-800)
Q62702-C376-V1	7031	**BC 414 B**	(180-460)
Q62702-C376-V2	7032	**BC 414 C**	(380-800)
Q62702-C377-V1	8217	**BC 415 A**	(120-220)
Q62702-C377-V2	8219	**BC 415 B**	(180-460)
Q62702-C377-V3	8345	**BC 415 C**	(380-800)
Q62702-C378-V1	7033	**BC 416 A**	(120-220)
Q62702-C378-V2	7034	**BC 416 B**	(180-460)
Q62702-C378-V3	7035	**BC 416 C**	(380-800)
Q62702-C393	7254	**BC 308 C**	(380-800)
Q62702-C423	7385	▼ **BCX 70 AG**	(120-220)
Q62702-C424	7386	▼ **BCX 70 AH**	(180-310)
Q62702-C425	7387	▼ **BCX 70 AJ**	(250-460)
Q62702-C426	7388	▼ **BCX 70 AK**	(380-630)
Q62702-C427	7389	▼ **BCX 71 BG**	(120-220)
Q62702-C428	7390	▼ **BCX 71 BH**	(120-310)
Q62702-C429	7391	▼ **BCX 71 BJ**	(250-460)
Q62702-C430	7392	▼ **BCX 71 BK**	(380-630)
Q62702-C436	—	**BC 158 C**	(380-800)
Q62702-C437	—	**BC 159 C**	(380-800)
Q62702-C438	—	**BC 258 C**	(380-800)
Q62702-C439	—	**BC 259 C**	(380-800)
Q62702-C457	7373	▼ **BCW 65 EA**	(100-250)
Q62702-C458	7374	▼ **BCW 65 EB**	(160-400)
Q62702-C459	7375	▼ **BCW 65 EC**	(250-630)
Q62702-C460	7376	▼ **BCW 66 EF**	(100-250)
Q62702-C461	7377	▼ **BCW 66 EG**	(160-400)
Q62702-C462	7378	▼ **BCW 66 EH**	(250-630)
Q62702-C463	7379	▼ **BCW 67 DA**	(100-250)
Q62702-C464	7380	▼ **BCW 67 DB**	(160-400)
Q62702-C465	7381	▼ **BCW 67 DC**	(250-630)
Q62702-C466	7382	▼ **BCW 68 DF**	(100-250)
Q62702-C467	7383	▼ **BCW 68 DG**	(160-400)
Q62702-C468	7384	▼ **BCW 68 DH**	(250-630)
Q62702-C618	–	**BCX 58 VII**	(120-220)
Q62702-C619	–	**BCX 58 VIII**	(180-310)
Q62702-C620	–	**BCX 58 IX**	(250-460)
Q62702-C621	–	**BCX 58 X**	(380-630)
Q62702-C622	–	**BCX 59 VII**	(120-220)
Q62702-C623	–	**BCX 59 VIII**	(180-310)
Q62702-C624	–	**BCX 59 IX**	(250-460)
Q62702-C625	–	**BCX 59 X**	(380-630)
Q62702-C626	–	**BCX 78 VII**	(120-220)
Q62702-C627	–	**BCX 78 VIII**	(180-310)
Q62702-C628	–	**BCX 78 IX**	(250-460)
Q62702-C629	–	**BCX 78 X**	(380-630)
Q62702-C630	–	**BCX 79 VII**	(120-220)
Q62702-C631	–	**BCX 79 VIII**	(180-210)
Q62702-C632	–	**BCX 79 IX**	(250-460)
Q62702-C633	–	**BCX 79 X**	(380-630)
Q62702-C634-S1	–	**BCX 73-16**	(100-250)
Q62702-C634-S2	–	**BCX 73-25**	(160-400)
Q62702-C634-S3	–	**BCX 73-40**	(250-630)
Q62702-C635-S1	–	**BCX 74-16**	(100-250)
Q62702-C635-S2	–	**BCX 74-25**	(160-400)
Q62702-C635-S3	–	**BCX 74-40**	(250-630)
Q62702-C636-S1	–	**BCX 75-16**	(100-250)
Q62702-C636-S2	–	**BCX 75-25**	(160-400)
Q62702-C636-S3	–	**BCX 75-40**	(250-630)
Q62702-C637-S1	–	**BCX 76-16**	(100-250)
Q62702-C637-S2	–	**BCX 76-25**	(160-400)
Q62702-C637-S3	–	**BCX 76-40**	(250-620)
Q62702-D34	–	▼ **2 N 3441**	
Q62702-D63	8623	**BD 130**	(20-70)
Q62702-D63-P	8624	**BD 130 match.**	
Q62702-D81-V2	–	**BDY 39-4**	(25-63)
Q62702-D81-V1	–	**BDY 39-6**	(40-100)
Q62702-D98	8857	**BDY 39 match.**	
Q62702-D106-V1	8807	**BD 135-6**	(40-100)
Q62702-D106-V2	8808	**BD 135-10**	(63-160)
Q62702-D106-V3	8809	**BD 135-16**	(100-250)
Q62702-D106-P	8355	**BD 135 match.**	
Q62702-D107-V1	8818	**BD 136-6**	(40-100)
Q62702-D107-V2	8819	**BD 136-10**	(63-160)
Q62702-D107-V3	8820	**BD 136-16**	(100-250)
Q62702-D107-S1	8356	**BD 136 match.**	
Q62702-D108-V1	8810	**BD 137-6**	(40-100)
Q62702-D108-V2	8811	**BD 137-10**	(63-160)
Q62702-D108-P	8413	**BD 137 match.**	
Q62702-D109-V1	8821	**BD 138-6**	(40-100)
Q62702-D109-V2	8822	**BD 138-10**	(63-160)
Q62702-D109-S1	8480	**BD 138 match.**	
Q62702-D110-V1	8813	**BD 139-6**	(40-100)
Q62702-D110-V2	8814	**BD 139-10**	(63-160)
Q62702-D110-P	8482	**BD 139 match.**	

Ordering code	Stock No.	Type	Gain group range (B) [β]
Q62702-D111-V1	8824	**BD 140-6**	(40-100)
Q62702-D111-V2	8825	**BD 140-10**	(63-160)
Q62702-D111-S1	—	**BD 140 match.**	
Q62702-D125-V1	8874	■ **BD 148-4**	(25-63)
Q62702-D129	8353	**BDY 89**	(> 500)
Q62702-D130	8352	**BDY 88**	(> 500)
Q62702-D131	8351	**BDY 87**	(> 500)
Q62702-D139-S1	8815	**BD 135/BD 136 compl. match.**	
Q62702-D140-S1	8816	**BD 137/BD 138 compl. match.**	
Q62702-D141-S1	8817	**BD 139/BD 140 compl. match.**	
Q62702-D145-V4	—	**BDX 25-4**	(25-60)
Q62702-D145-V6		**BDX 25-6**	(40-100)
Q62702-D145-V10	—	**BDX 25-10**	(63-160)
Q62702-D159-V6	—	▼ **BDX 28-6**	(40-100)
Q62702-D159-V10	—	▼ **BDX 28-10**	(63-160)
Q62702-D159-V16	—	▼ **BDX 28-16**	(100-250)
Q62702-D160-V6	—	▼ **BDX 29-6**	(40-100)
Q62702-D160-V10	—	▼ **BDX 29-10**	(63-160)
Q62702-D162-V6	—	▼ **BDX 27-6**	(40-100)
Q62702-D162-V10	—	▼ **BDX 27-10**	(63-160)
Q62702-D162-V16	—	▼ **BDX 27-16**	(100-250)
Q62702-D163-V6	—	▼ **BDX 30-6**	(40-100)
Q62702-D163-V10	—	▼ **BDX 30-10**	(63-160)
Q62702-D181-V6	—	▼ **BD 233-6**	(40-100)
Q62702-D181-V10	—	▼ **BD 233-10**	(63-160)
Q62702-D181-V16	—	▼ **BD 233-16**	(100-250)
Q62702-D182-V6	—	▼ **BD 235-6**	(40-100)
Q62702-D182-V10	—	▼ **BD 235-10**	(63-160)
Q62702-D182-V16	—	▼ **BD 235-16**	(100-250)
Q62702-D184-V6	—	▼ **BD 234-6**	(40-100)
Q62702-D184-V10	—	▼ **BD 234-10**	(63-160)
Q62702-D184-V16	—	▼ **BD 234-16**	(100-250)
Q62702-D181	—	**BD 233**	
Q62702-D184	—	**BD 234**	
Q62702-D182	—	**BD 235**	
Q62702-D185	—	**BD 236**	
Q62702-D183	—	**BD 237**	
Q62702-D186	—	**BD 238**	
Q62702-D185-V6	—	▼ **BD 236-6**	(40-100)
Q62702-D185-V10	—	▼ **BD 236-10**	(63-160)
Q62702-D185-V16	—	▼ **BD 236-16**	(100-250)
Q62702-D183-V6	—	▼ **BD 237-6**	(40-100)
Q62702-D183-V10	—	▼ **BD 237-10**	(63-160)
Q62702-D186-V6	—	▼ **BD 238-6**	(40-100)
Q62702-D186-V10	—	▼ **BD 238-10**	(63-160)
Q62702-D195-P1	—	▼ **BD 165 compl. match.**	
Q62702-D197-P1	—	▼ **BD 167 compl. match.**	
Q62702-D199-P1	—	▼ **BD 169 compl. match.**	
Q62702-D217	—	▼ **BD 433/BD 434 compl. match.**	
Q62702-D218	—	▼ **BD 435/BD 436 compl. match.**	
Q62702-D219	—	▼ **BD 437/BD 438 compl. match.**	
Q62702-D220	–	**BD 533**	
Q62702-D226	–	**BD 533/BD 534 compl. match.**	
Q62702-D221	–	**BD 534**	
Q62702-D222	–	**BD 535**	
Q62702-D227	–	**BD 535/BD 536 compl. match.**	
Q62702-D233	–	**BD 536**	
Q62702-D224	–	**BD 537**	
Q62702-D225	–	**BD 538**	
Q62702-D228	–	**BD 537/BD 538 compl. match.**	
Q62702-D238	–	**BD 675**	
Q62702-D239	–	**BD 676**	
Q62702-D240	–	**BD 677**	
Q62702-D241	–	**BD 678**	
Q62702-D242	–	**BD 679**	
Q62702-D243	–	**BD 680**	
Q62702-D246	–	**BD 679/BD 680 compl. match.**	
Q62702-D245	–	**BD 677/BD 678 compl. match.**	
Q62702-D244	–	**BD 765/BD 676 compl. match.**	
Q62702-D280	–	**BD 439**	
Q62702-D281	–	**BD 440**	
Q62702-D282	–	**BD 441**	

Ordering code	Stock No.	Type	Gain group range (B) [β]
Q62702-D283	–	**BD 442**	
Q62702-D284	–	▼ **BD 439/BD 440 compl. match.**	
Q62702-D285	–	▼ **BD 441/BD 442 compl. match.**	
Q62702-F147	8688	**BF 194**	
Q62702-F148	8689	**BF 195**	
Q62702-F201	8747	**BF 254**	
Q62702-F202	8748	**BF 255**	
Q62702-F272	7058	**BFS 55**	
Q62702-F244-S	–	**BFW 99 S**	
Q62702-F296	8885	**BFX 89**	
Q62702-F297	8886	**BFY 90**	
Q62702-F302	8483	**BF 240**	
Q62702-F303	8484	**BF 241**	
Q62702-F311	7037	**BF 324**	
Q62702-F312	7038	**BF 450**	
Q62702-F313	7039	**BF 451**	
Q62702-F315	7040	**BF 457**	
Q62702-F316	7041	**BF 458**	
Q62702-F317	7042	**BF 459**	
Q62702-F319	—	**BFW 16 A**	
Q62702-F320	7060	**BFW 30**	
Q62702-F321	7061	**BFW 92**	
Q62702-F322	—	**BFR 15**	
Q62702-F337	7065	▼ **BFS 17**	
Q62702-F346	—	▼ **BFR 34**	
G62702-F347	—	▼ **BFR 35**	
Q62702-F350	7066	▼ **BFS 20**	
Q62702-F354	7071	▼ **BF 198**	
Q62702-F355	7072	▼ **BF 199**	
Q62702-F395	—	▼ **BF 362**	
Q62702-F396	—	▼ **BF 363**	
Q62702-F416	—	**BFR 14 A**	
Q62702-F310	—	▼ **BFR 28**	
Q62702-F390	7069	▼ **BFT 12**	
Q62702-G1	—	**BGY 12 A**	
Q62702-G2	—	**BGY 12 B**	
Q62702-G3	—	**BGY 13 A**	
Q62702-G4	—	**BGY 13 B**	
Q62702-G5	—	**BGY 14 A**	
Q62702-G6	—	**BGY 14 B**	
Q62702-P9	7089	**BPY 12**	
Q62702-P14	—	**BPY 74**	
Q62702-P12-S1	—	**BP 101 IV**	
Q62702-P15-S1	7079	▼ **BPX 38 I**	
Q62702-P15-S2	7218	▼ **BPX 38 II**	
Q62702-P15-S3	7219	▼ **BPX 38 III**	
Q62702-P15-S4	7220	▼ **BPX 38 IV**	
Q62702-P16-S1	7221	▼ **BPX 43 I**	
Q62702-P16-S2	7222	▼ **BPX 43 II**	
Q62702-P16-S3	7223	▼ **BPX 43 III**	
Q62702-P16-S4	7224	▼ **BPX 43 IV**	
Q62702-P17	8643	**BPX 48**	
Q62702-P19	7080	**BPX 62**	
Q62702-P19-S1	–	**BPX 62 I**	
Q62702-P19-S2	–	**BPX 62 II**	
Q62702-P19-S3	–	**BPX 62 III**	
Q62702-P19-S4	–	**BPX 62 IV**	
Q62702-P43-S1	–	**BPX 81 I**	
Q62702-P43-S2	–	**BPX 81 II**	
Q62702-P43-S3	–	**BPX 81 III**	
Q62702-P43-S4	–	**BPX 81 IV**	
Q62702-P24	8644	**BPX 65**	
Q62702-P20	7081	**BPX 81**	
Q62702-P21	7082	**BPX 82**	
Q62702-P25	7083	**BPX 83**	
Q62702-P22	7084	**BPX 86**	
Q62702-P54	–	**BPX 60**	
Q62702-P23-S1	7614	**BP 102 I**	
Q62702-P23-S2	7215	**BP 102 II**	
Q62702-P23-S3	7216	**BP 102 III**	
Q62702-P23-S4	7217	**BP 102 IV**	
Q62702-P28	–	**BPX 80**	
Q62702-P26	7085	**BPX 89**	
Q62702-P55	–	**BPX 63**	
Q62702-P47	–	**BPX 90**	
Q62702-P48	–	**BPX 91**	

Ordering code	Stock No.	Type	Gain group range (B) [β]
Q62702-P30	–	BPX 84	
Q62702-P31	–	BPX 85	
Q62702-P32	–	BPX 87	
Q62702-P33	–	BPX 88	
Q62702-P54	–	BPX 60	
Q62702-P49	–	BPX 92	
Q62702-P50	–	BPX 93	
Q62702-P70	–	BPY 61 IV	
Q62702-P51	–	BPX 79	
Q62702-P62	–	BPX 78	
Q62702-P61	–	BPX 77	
Q62702-R81	8577	BRY 21	
Q62702-S207	8716	BSV 15-6	(40-100)
Q62702-S208	8717	BSV 15-10	(63-160)
Q62702-S209	8718	BSV 15-16	(100-250)
Q62702-S210	8719	BSV 16-6	(40-100)
Q62702-S211	8720	BSV 16-10	(63-160)
Q62702-S212	8721	BSV 16-16	(100-250)
Q62702-S213	7046	BSV 17-6	(40-100)
Q62702-S214	7047	BSV 17-10	(63-160)
Q62702-S347	—	▼ BSV 65 FA	
Q62702-S348	—	▼ BSV 65 FB	
Q62702-U38-F100	7063	▼ 2 N 4347	
Q62702-U57-V1	—	■ 2 N 3054 S-4	(26-60)
Q62702-U57-V2	—	■ 2 N 3054 S-6	(40-100)
Q62702-U52-F100	8858	2 N 3055	
Q62702-U58-P	8859	2 N 3055 match.	
Q62702-U59-F100	7064	▼ 2 N 3442	
Q62702-U83	8487	BU 110	
Q62702-U84	8488	BU 111	
Q62702-U107-V4	–	▼ BUY 55-4	(25-63)
Q62702-U107-V6	7135	▼ BUY 55-6	(40-100)
Q62702-U107-V10	–	▼ BUY 55-10	(63-160)
Q62702-U108-V4	–	▼ BUY 56-4	(25-63)
Q62702-U108-V6	7138	▼ BUY 56-6	(40-100)
Q62702-U108-V10	–	▼ BUY 56-10	(63-160)
Q62702-U109	7054	▼ BUY 57	
Q62702-U110	7055	▼ BUY 58	
Q62702-U112	7050	BUY 35	
Q62702-U115	8489	■ BUY 44	
Q62702-U116-V1	7163	▼ 2 N 3054-4	(25-60)
Q62702-U116-V2	7203	▼ 2 N 3054-6	(40-100)
Q62702-U118	7043	BU 114	
Q62702-U123-V4	–	▼ BUY 72-4	(25-63)
Q62702-U123-V6	7141	▼ BUY 72-6	(40-100)
Q62702-U123-V10	–	▼ BUY 72-10	(63-160)
Q62702-U124	7056	▼ BUY 73	
Q62702-U146	7051	▼ BUY 74	
Q62702-U147	7052	▼ BUY 75	
Q62702-U148	7053	▼ BUY 76	
Q62702-U151	7301	▼ BUY 77	
Q62702-U152	7302	▼ BUY 78	
Q62702-U153	7303	▼ BUY 79	
Q62702-U167	—	▼ BU 126	
Q62702-U209	—	BU 310	
Q62702-U210	—	BU 311	
Q62702-U211	—	BU 312	
Q62702-X48	—	BXY 14 GA	
Q62702-X50	—	BXY 19 HA	
Q62702-X53	—	BXY 19 FB	
Q62702-X54	—	BXY 21 CA	
Q62702-X72	—	BXY 15 CA-1	
Q62702-X73	—	BXY 15 CA-2	
Q62702-X76-E3	—	BXY 24 EA-3	
Q62702-X81	—	BXY 42	
Q62702-X82	—	BXY 43	
Q62702-X83	—	BXY 44	
Q62702-X86	—	▼ BXY 13 A	
Q62702-X89	—	▼ BXY 15 DC-1	
Q62702-X90	—	▼ BXY 15 DC-2	
Q62702-X94	—	BXY 17 CA-1	
Q62702-X..	—	BXY 17 CA-2	
Q62702-Z569	8665	■ BZX 55 C 0 V 8	
Q62702-Z570	8666	■ BZX 55 C 5 V 6	
Q62702-Z571	8667	■ BZX 55 C 6 V 2	
Q62702-Z572	8668	■ BZX 55 C 6 V 8	
Q62702-Z573	8669	■ BZX 55 C 7 V 5	
Q62702-Z574	8670	■ BZX 55 C 8 V 2	
Q62702-Z575	8671	■ BZX 55 C 9 V 1	
Q62702-Z576	—	■ BZX 55 D 5 V 6	
Q62702-Z577	—	■ BZX 55 D 6 V 8	
Q62702-Z578	—	■ BZX 55 D 8 V 2	
Q62702-Z579	—	■ BZX 55 D 10	
Q62702-Z682	8672	■ BZX 55 C 10	
Q62702-Z683	8673	■ BZX 55 C 11	
Q62702-Z684	8674	■ BZX 55 C 12	
Q62702-Z686	8676	■ BZX 55 C 15	
Q62702-Z688	8866	■ BZX 55 C 18	
Q62702-Z689	8679	■ BZX 55 C 20	
Q62702-Z690	8680	■ BZX 55 C 22	
Q62702-Z692	—	■ BZX 55 D 12	
Q62702-Z693	—	■ BZX 55 D 15	
Q62702-Z694	—	■ BZX 55 D 18	
Q62702-Z695	—	■ BZX 55 D 22	
Q62702-Z835	8675	■ BZX 55 C 13	
Q62702-Z840	8677	■ BZX 55 C 16	
Q62702-Z841	8681	■ BZX 55 C 24	
Q62702-Z847	8490	■ BZX 55 C 27	
Q62702-Z848	8491	■ BZX 55 C 30	
Q62702-Z849	8492	■ BZX 55 C 33	
Q62702-Z850	8493	■ BZX 55 C 36	
Q62702-Z851	—	■ BZX 55 D 27	
Q62702-Z852	—	■ BZX 55 D 33	
Q62702-Z1063	7304	▼ BZX 83 C 2 V 7	
Q62702-Z1064	7305	▼ BZX 83 C 3 V 0	
Q62702-Z1065	7306	▼ BZX 83 C 3 V 3	
Q62702-Z1066	7307	▼ BZX 83 C 3 V 6	
Q62702-Z1067	7308	▼ BZX 83 C 3 V 9	
Q62702-Z1068	7309	▼ BZX 83 C 4 V 3	
Q62702-Z1069	7310	▼ BZX 83 C 4 V 7	
Q62702-Z1070	7311	▼ BZX 83 C 5 V 1	
Q62702-Z1071	7312	▼ BZX 83 C 5 V 6	
Q62702-Z1072	7313	▼ BZX 83 C 6 V 2	
Q62702-Z1073	7330	▼ BZX 83 C 6 V 8	
Q62702-Z1074	7314	▼ BZX 83 C 7 V 5	
Q62702-Z1075	7315	▼ BZX 83 C 8 V 2	
Q62702-Z1076	7316	▼ BZX 83 C 9 V 1	
Q62702-Z1077	7317	▼ BZX 83 C 10	
Q62702-Z1078	7318	▼ BZX 83 C 11	
Q62702-Z1079	7319	▼ BZX 83 C 12	
Q62702-Z1080	7320	▼ BZX 83 C 13	
Q62702-Z1081	7321	▼ BZX 83 C 15	
Q62702-Z1082	7322	▼ BZX 83 C 16	
Q62702-Z1083	7323	▼ BZX 83 C 18	
Q62702-Z1084	7324	▼ BZX 83 C 20	
Q62702-Z1085	7325	▼ BZX 83 C 22	
Q62702-Z1086	7326	▼ BZX 83 C 24	
Q62702-Z1087	7327	▼ BZX 83 C 27	
Q62702-Z1088	7328	▼ BZX 83 C 30	
Q62702-Z1089	7329	▼ BZX 83 C 33	
Q62702-Z1221	7335	▼ BZX 97 C 2 V 7	
Q62702-Z1222	7336	▼ BZX 97 C 3 V 0	
Q62702-Z1223	7337	▼ BZX 97 C 3 V 3	
Q62702-Z1224	7338	▼ BZX 97 C 3 V 6	
Q62702-Z1225	7339	▼ BZX 97 C 3 V 9	
Q62702-Z1226	7340	▼ BZX 97 C 4 V 3	
Q62702-Z1227	7341	▼ BZX 97 C 4 V 7	
Q62702-Z1228	7342	▼ BZX 97 C 5 V 1	
Q62702-Z1229	7343	▼ BZX 97 C 5 V 6	
Q62702-Z1230	7344	▼ BZX 97 C 6 V 2	
Q62702-Z1231	7345	▼ BZX 97 C 6 V 8	
Q62702-Z1232	7346	▼ BZX 97 C 7 V 5	
Q62702-Z1233	7347	▼ BZX 97 C 8 V 2	
Q62702-Z1234	7348	▼ BZX 97 C 9 V 1	
Q62702-Z1235	7349	▼ BZX 97 C 10	
Q62702-Z1236	7350	▼ BZX 97 C 11	
Q62702-Z1237	7351	▼ BZX 97 C 12	
Q62702-Z1238	7352	▼ BZX 97 C 13	
Q62702-Z1239	7353	▼ BZX 97 C 15	
Q62702-Z1240	7354	▼ BZX 97 C 16	
Q62702-Z1241	7355	▼ BZX 97 C 18	
Q62702-Z1242	7356	▼ BZX 97 C 20	
Q62702-Z1243	7357	▼ BZX 97 C 22	
Q62702-Z1244	7358	▼ BZX 97 C 24	
Q62702-Z1245	7359	▼ BZX 97 C 27	
Q62702-Z1246	7360	▼ BZX 97 C 30	
Q62702-Z1247	7361	▼ BZX 97 C 33	
Q62702-Z1352	7331	BZX 83 C 0 V 8	
Q62702-Z1353	7332	BZX 83 C 2 V 4	
Q62702-Z1273	7334	BZX 97 C 2 V 4	
Q62702-Z1385	7333	BZX 97 C 0 V 8	
Q62703-N1-S1	–	▼ CNY 17/I	
Q62703-N1-S2	–	▼ CNY 17/II	
Q62703-N1-S3	–	▼ CNY 17/III	
Q62703-N1-S4	–	▼ CNY 17/IV	
Q62703-N1-S5	–	▼ CNY 17/0	
Q62703-N2-S1	–	▼ CNY 18/I	
Q62703-N2-S2	–	▼ CNY 18/II	
Q62703-N2-S3	–	▼ CNY 18/III	
Q62703-N2-S4	–	▼ CNY 18/IV	
Q62703-Q53-F97	7371	LD 50/I	
Q62703-Q54-F97	7372	LD 50/II	
Q62703-Q56-F97	–	▼ CQY 21	
Q62703-Q63	–	LD 261/I	
Q62703-Q64	–	LD 261/II	
Q62703-Q65	–	LD 261/III	
Q62703-Q66	–	LD 261/IV	
Q62703-Q70	–	LD 262	
Q62703-Q71	–	LD 263	
Q62703-Q72	–	LD 264	
Q62703-Q73	–	LD 265	
Q62703-Q74	–	LD 266	
Q62703-Q75	–	LD 267	
Q62703-Q76	–	LD 268	
Q62703-Q77	–	LD 269	
Q62703-Q78	–	LD 260	
Q62703-Q79	–	LD 461	
Q62703-Q80	–	LD 462	
Q62703-Q81	–	LD 463	
Q62703-Q82	–	LD 464	
Q62703-Q83	–	LD 665	
Q62703-Q84	–	LD 466	
Q62703-Q85	–	LD 467	
Q62703-Q86	–	LD 468	
Q62703-Q87	–	LD 469	
Q62703-Q88	–	LD 460	
Q62703-Q89-S1	–	CQY 17/IV	
Q62703-Q89-S2	–	CQY 17/V	
Q62703-Q89-S3	–	CQY 17/VI	
Q62703-Q90-S1	–	CQY 18/III	
Q62703-Q90-S2	–	CQY 18/IV	
Q62703-Q90-S3	–	CQY 18/V	
Q62705-P21-F39	7367	LD 30 B	
Q62705-P22-F39	7368	LD 30 C	
Q62703-P2-F39	7369	LD 40/I	
Q62703-P3-F39	7370	LD 40/II	
Q62717-P3	—	RPY 60	
Q62717-P4	—	RPY 61	
Q62717-P5	—	RPY 62	
Q62717-P6	—	RPY 63	
Q62717-P7	—	RPY 64	
Q62801-F1	—	▼ SV 200/I	single chip
Q62801-F2	—	▼ SV 200/II	single chip
Q62801-F3	—	▼ SV 200/III	single chip
Q62902-B84-F39		glass clear mount. clip for LD 40	
Q62902-B85-F39		black mounting clip for LD 40	
Q62902-B104-F97		glass clear mounting clip for LD 50	
Q62902-B105-F97		glass clear mounting ring for LD 50	
Q62902-B110-F39		black mounting ring for LD 40	
Q63011-K500-J	8365	K 11/5%/50 Ohm	
Q63011-K101-J	8366	K 11/5%/100 Ohm	
Q63011-K201-J	8367	K 11/5%/200 Ohm	
Q63011-K501-J	8368	K 11/5%/500 Ohm	
Q63011-K102-J1	8369	K 11/5%/1 K	
Q63011-K202-J	8370	K 11/5%/2 K	
Q63011-K502-J	8371	K 11/5%/5 K	
Q63011-K103-J	8372	K 11/5%/10 K	
Q63011-K203-J	8373	K 11/5%/20 K	
Q63011-K503-J	8374	K 11/5%/50 K	
Q63011-K104-J	8375	K 11/5%/100 K	
Q63011-K200-K	8376	K 11/10%/20 Ohm	
Q63011-K500-K	8377	K 11/10%/50 Ohm	
Q63011-K101-K	8378	K 11/10%/100 Ohm	
Q63011-K201-K	8379	K 11/10%/200 Ohm	
Q63011-K501-K	8380	K 11/10%/500 Ohm	
Q63011-K102-K1	8382	K 11/10%/1 K	
Q63011-K202-K	8383	K 11/10%/2 K	
Q63011-K502-K	8384	K 11/10%/5 K	
Q63011-K103-K	8385	K 11/10%/10 K	
Q63011-K203-K	8386	K 11/10%/20 K	
Q63011-K503-K	8387	K 11/10%/50 K	
Q63011-K104-K	8388	K 11/10%/100 K	
Q63011-K504-K	8389	K 11/10%/500 K	
Q63011-K100-M	8390	K 11/20%/10 Ohm	
Q63011-K200-M	8648	K 11/20%/20 Ohm	
Q63011-K500-M	8391	K 11/20%/50 Ohm	
Q63011-K101-M	8649	K 11/20%/100 Ohm	
Q63011-K201-M	8650	K 11/20%/200 Ohm	
Q63011-K501-M	8392	K 11/20%/500 Ohm	
Q63011-K102-M1	8393	K 11/20%/1 K	
Q63011-K202-M	8394	K 11/20%/2 K	
Q63011-K502-M	8395	K 11/20%/5 K	
Q63011-K103-M	8396	K 11/20%/10 K	
Q63011-K203-M	8651	K 11/20%/20 K	
Q63011-K503-M	8652	K 11/20%/50 K	
Q63011-K104-M	8397	K 11/20%/100 K	
Q63011-K504-M	8398	K 11/20%/500 K	
Q63013-K500-K	–	■ K 13/10%/50 Ohm	
Q63013-K201-K	–	■ K 13/10%/200 Ohm	
Q63013-K202-K	–	■ K 13/10%/2 K	
Q63013-K503-K	–	■ K 13/10%/50 K	
Q63015-K40-M	–	K 15/20%/4 Ohm	
Q63015-K500-M	–	K 15/20%/50 Ohm	
Q63015-K151-M	–	K 15/20%/150 Ohm	
Q63015-K501-M	–	K 15/20%/500 Ohm	
Q63015-K202-M	–	K 15/20%/2 K	
Q63015-K53-M	–	K 15/20%/5 K	
Q63015-K4040-M	8432	K 154/20%/4 Ohm	
Q63015-K4100-M	8433	K 154/20%/10 Ohm	
Q63015-K4200-M	8434	K 154/20%/20 Ohm	
Q63015-K4400-M	8435	K 154/20%/40 Ohm	
Q63015-K4101-M	8436	K 154/20%/100 Ohm	
Q63015-K4151-M	8437	K 154/20%/150 Ohm	
Q63015-K4251-M	8438	K 154/20%/250 Ohm	
Q63015-K4501-M	8439	K 154/20%/500 Ohm	
Q63015-K4102-M	8440	K 154/20%/1 K	

▼ New Type ■ Not for new developments

Ordering code	Stock No.	Type
Q63015-K4202-M	8441	K 154/20%/2 K
Q63015-K4502-M	8442	K 154/20%/5 K
Q63015-K4103-M	8443	K 154/20%/10 K
Q63015-K4253-M	8563	K 154/20%/25 K
Q63015-K4603-M	8444	K 154/20%/60 K
Q63016-K4006-M8	7414	▼ K 164/20%/6,8 Ω
Q63016-K4010-M	7415	▼ K 164/20%/10 Ω
Q63016-K4015-M	7416	▼ K 164/20%/15 Ω
Q63016-K4022-M	7417	▼ K 164/20%/22 Ω
Q63016-K4033-M	7418	▼ K 164/20%/33 Ω
Q63016-K4047-M	7419	▼ K 164/20%/47 Ω
Q63016-K4068-M	7420	▼ K 164/20%/68 Ω
Q63016-K4100-M	7421	▼ K 164/20%/100 Ω
Q63016-K4150-M	7422	▼ K 164/20%/150 Ω
Q63016-K4220-M	7423	▼ K 164/20%/220 Ω
Q63016-K4330-M	7424	▼ K 164/20%/330 Ω
Q63016-K4470-M	7425	▼ K 164/20%/470 Ω
Q63016-K4680-M	7426	▼ K 164/20%/680 Ω
Q63016-K4001-M40	7427	▼ K 164/20%/1 K
Q63016-K4001-M45	7428	▼ K 164/20%/1,5 K
Q63016-K4002-M42	7429	▼ K 164/20%/2,2 K
Q63016-K4003-M43	7430	▼ K 164/20%/3,3 K
Q63016-K4004-M47	7431	▼ K 164/20%/4,7 K
Q63016-K4006-M48	7432	▼ K 164/20%/6,8 K
Q63016-K4010-M40	7433	▼ K 164/20%/10 K
Q63016-K4015-M40	7434	▼ K 164/20%/15 K
Q63016-K4022-M40	7435	▼ K 164/20%/22 K
Q63016-K4033-M40	7436	▼ K 164/20%/33 K
Q63016-K4047-M40	7437	▼ K 164/20%/47 K
Q63016-K4068-M40	7438	▼ K 164/20%/68 K
Q63016-K4100-M40	7439	▼ K 164/20%/100 K
Q63017-K252-K	7103	K 17/10%/2,5 K
Q63017-K402-K	8410	K 17/10%/4 K
Q63017-K402-K1	—	K 17/10%/4 K-P 1
Q63017-K402-K2	—	K 17/10%/4 K-P 2
Q63017-K103-K	8412	K 17/10%/10 K
Q63017-K103-K1	—	K 17/10%/10 K-P 1
Q63017-K103-K2	—	K 17/10%/10 K-P 2
Q63017-K104-K1	—	K 17/10%/100 K-P 1
Q63017-K104-K2	—	K 17/10%/100 K-P 2
Q63017-K104-K	8411	K 17/10%/100 K
Q63017-K252-M	—	K 17/20%/2,5 K
Q63017-K402-M	8414	K 17/20%/4 K
Q63017-K402-M1	—	K 17/20%/4 K-P 1
Q63017-K402-M2	—	K 17/20%/4 K-P 2
Q63017-K103-M	8415	K 17/20%/10 K
Q63017-K103-M1	—	K 17/20%/10 K-P 1
Q63017-K103-M2	—	K 17/20%/10 K-P 2
Q63017-K104-M	8416	K 17/20%/100 K
Q63017-K104-M1	—	K 17/20%/100 K-P 1
Q63017-K104-M2	—	K 17/20%/100 K-P 2
Q63019-K123-K	7112	K 19/10%/12 K
Q63019-K123-M	8419	K 19/20%/12 K
Q63019-K123-M1	—	K 19/20%/12 K-P 1
Q63019-K123-M2	—	K 19/20%/12 K-P 2
Q63022-K102-M	8420	K 22/20%/1 K
Q63022-K103-M	8421	K 22/20%/10 K
Q63022-K403-M	8422	K 22/20%/40 K
Q63022-K254-M	8423	K 22/20%/250 K
Q63022-K302-S1	7440	▼ K 220 S 1/2,5 K Ohm
Q63022-K2-S1	7444	▼ K 222 S 1/2,5 K Ohm
Q63022-K2001-M40	7441	▼ K 222/20%/1 K Ω
Q63022-K2010-M40	7442	▼ K 222/20%/10 K Ω
Q63022-K2040-M40	7443	▼ K 222/20%/40 K Ω
Q63022-K7103-J	—	▼ K 227/5%/10 K Ω
Q63022-K8004-N47	—	▼ K 228/25%/4,7 K
Q63022-K8025-N40	—	▼ K 228/25%/25 K
Q63022-K8035-N40	—	▼ K 228/25%/35 K
Q63022-K8100-N40	—	▼ K 228/25%/100 K
Q63024-K3942		K 243/3,5%/9,4 K
Q63025-K2501-K	—	K 252/10%/500 Ohm
Q63025-K2013-K	8445	K 252/10%/1 K
Q63025-K2063-K	8446	K 252/10%/6 K
Q63025-K2044-K	8447	K 252/10%/40 K
Q63025-K2501-M	—	K 252/20%/500 Ohm
Q63025-K2102-M	8448	K 252/20%/1 K
Q63025-K2063-M	8449	K 252/20%/6 K
Q63025-K2044-M	8450	K 252/20%/40 K
Q63025-K100-M	8424	K 25/20%/10 Ohm
Q63025-K250-M	8425	K 25/20%/25 Ohm
Q63025-K600-M	8426	K 25/20%/60 Ohm
Q63025-K151-M	8427	K 25/20%/150 Ohm
Q63025-K241-M	8562	K 25/20%/240 Ohm
Q63025-K102-M	8428	K 25/20%/1 K
Q63025-K602-M	8429	K 25/20%/6 K
Q63026-K602-M	8430	K 26/20%/6 K
Q63026-K163-M	8431	K 26/20%/16 K
Q63027-K125-M	8887	▼ K 274/20%/1,25 K
Q63028-K1252-K	—	■ K 283/10%/1,25 K

Ordering code	Stock No.	Type
Q63028-K1252-M	—	■ K 283/20%/1,25 K
Q63029-K2104-M	7123	K 292/20%/100 K
Q63029-K2104-M1	7446	K 292/20%/100 K-P1
Q63029-K2104-M2	7447	K 292/20%/100 K-P 2
Q63029-K123-K	7116	K 29/10%/12 K
Q63029-K123-K1	—	K 29/10%/12 K-P 1
Q63029-K123-K2	—	K 29/10%/12 K-P 2
Q63029-K123-M	7113	K 29/20%/12 K
Q63029-K123-M1	—	K 29/20%/12 K-P 1
Q63029-K123-M2	—	K 29/20%/12 K-P 2
Q63034-A1-J	8347	A 34-2/30 A
Q63034-A1-M	8348	A 34-2/30 B
Q63034-A2	—	A 34-4/20
Q63034-A3	—	A 34-5/15
Q63034-A4	—	A 34-6/40
Q63034-A5	—	A 34-7/10
Q63034-A6	—	A 34-10/25
Q63034-A7	—	A 34-14/30
Q63034-A8	—	A 34-25/18
Q63035-K400-M	7132	▼ K 35/20%/40 Ohm
Q63035-K1-M40	7225	▼ K 35/20%/1 K
Q63035-K6-M40	—	▼ K 35/20%/6 K
Q63035-K150-M40	—	▼ K 35/20%/150 K
■ Q63037-A3	—	A 37-9/85
Q63037-A4	—	A 37-22/38
Q63051-R1	8454	R 51-8/0,5/10 b
Q63051-R2	8455	R 51-8/0,5/10 c
Q63051-R3	8456	R 51-8/0,5/10 d
Q63051-R5	8451	R 51-4/1/20 b
Q63051-R6	8452	R 51-4/1/20 c
Q63051-R7	8453	R 51-4=1=20 d
Q63074-F2	8357	F 74-35/15 x
Q63074-F1	8358	F 74-51/25 x
Q63075-F9	8359	F 75-34/14 u
Q63075-F1	8360	F 75-34/14 x
Q63075-F2	8362	F 75-41/21 u
Q63075-F3	8361	F 75-41/21 x
Q63075-F4	8363	F 75-46/23 u
Q63075-F5	8560	F 75-46/23 x
Q63075-F8	—	F 75-54/32 s
Q63075-F6	8364	F 75-54/32 u
Q63075-F7	8561	F 75-54/32 x
Q63081-M103-M	8729	M 81/20%/10 K
Q63081-M103-K	8728	M 81/10%/10 K
Q63081-M2104-M	7448	M 812/20%/100 K
Q63082-M1-S140	—	▼ M 820 S1/1 KΩ
Q63082-M2-S142	—	▼ M 820 S1/2,2 KΩ
Q63082-M10-S140	—	▼ M 820 S1/10 KΩ
Q63082-M100-S1	—	▼ M 820 S1/100 Ohm
Q63082-M800-S1	7127	▼ M 820 S1/80 Ohm
Q63083-M1009-S144	—	▼ M 831 S1/9,4 K [1]
Q63083-M1001-K40	—	▼ M 831/10%/1 K [1]
Q63083-M1001-K45	—	▼ M 831/10%/1,5 K [1]
Q63083-M1006-K48	—	▼ M 831/10%/6,8 K [1]
Q63083-M1010-K40	—	▼ M 831/10%/10 K [1]
Q63083-M2022-K40	—	▼ M 832/10%/22 K [1]
Q63083-M2001-S148	—	▼ M 832 S1/10%/1,8 K [1]
Q63083-M2009-S145	—	▼ M 832 S1/10%/9,5 K [1]
Q64001-E218	—	EA 218
Q64001-F22-E	—	FA 22 e
Q64001-F24	—	FA 24
Q64002-M26-S1	—	MB 26/EL 38
Q64003-T21	—	TC 21
Q64003-F32	—	FC 32
Q64003-F33	—	FC 33
Q64003-F34	—	FC 34
Q64018-M2	—	KSM 2
Q64021-S110-S2	—	SV 110/II
Q64021-S110-S3	—	SV 110/III
Q64021-S130-S1	—	SV 130/I
Q64021-S130-S2	—	SV 130/II
Q64021-S130-S3	—	SV 130/III
Q64021-S200-S1	—	▼ SV 200/I
Q64021-S200-S2	—	▼ SV 200/II
Q64021-S200-S3	—	▼ SV 200/III
Q64021-S210	—	SV 210
Q64021-S230-S	—	SV 230 S
Q64021-S200-S4	—	▼ SV 200/I } with
Q64021-S200-S5	—	▼ SV 200/II } connection
Q64021-S200-S6	—	▼ SV 200/III } wires
Q64021-S200-S7	—	▼ SV 200/I } with
Q64021-S200-S8	—	▼ SV 200/II } soldering
Q64021-S200-S9	—	▼ SV 200/III } taps
Q64099-V525	—	SBV 525

Ordering code	Stock No.	Type
Q64099-V552	—	SBV 552
Q64099-V566	8687	SBV 566
Q64099-V570	—	SBV 570
Q64099-V579	—	SBV 579
Q64099-V595	—	SBV 595
Q65017-D500-E	8753	FP 17 D 500 E
Q65017-L200-E	7094	FP 17 L 200 E
Q65017-L200-J	7393	FP 17 L 200 J
Q65030-D250-E	8755	FP 30 D 250 E
Q65030-L50-E	8739	FP 30 L 50 E
Q65030-L100-E	8756	FP 30 L 100 E
Q65030-L100-J	7394	FP 30 L 100 J
Q65030-N60-E	7395	FP 30 N 60 E
Q65100-L100	7092	▼ FP 100 L 100
Q65110-D155	7093	▼ FP 110 D 155
Q65110-L60	7362	▼ FP 110 L 60
Q65111-L100	7366	FP 111 L100
Q65200-L100-W	7363	▼ FP 200 L 100
Q65210-D250-W	7364	▼ FP 210 D 250
Q65210-L100-W	7365	▼ FP 210 L 100

Mounting- and insulating-parts

Q62901-B1	8336	Heat sink for e. g. AC 121, ACY 23, 32, 33, AC 121, 127, 151, 152, 153, 162, 163, 176
Q62901-B2-A	8337	Mounting plate for e. g. TF 78/30
Q62901-B2-B	8338	Washer for TF 78/60
Q62901-B11-A	8339	Mica disc for AD 130, 131, 132, 163, AD 149, 150, and ADY 27, AUY 20, AUY 34.
Q62901-B13-A	8340	Mica disc for AD 133, AUY 21, 22, 29.
Q62901-B13-B	8341	Insulating nipple (Makrolon) for AD 133.
Q62901-B13-C	8566	Insulat. nipple (Teflon, white for e. g. BUY 55, 56, 72 and BU 110.
Q62901-B16-A	8342	Mica disc for e. g. AD 148, 161, 162.
Q62901-B17-A	8343	Mica disc for e. g. AD 136, AUY 18.
Q62901-B17-B	8344	Mounting plate for e. g. AD 136, AUY 18
Q62901-B40	8089	Mica disc for e. g. BDY 87, 88, 89
Q62901-B47	7228	Mica disc for e. g. BUY 55
Q62901-B48	7231	Mica disc for e. g. BUY 57
Q62902-B62	7201	▼ Mica disc round for e. g. BD 135
Q62902-B63	7202	▼ Spring washer A 3 DIN 137
Q62901-B50	—	Insulating nipple Siprelit, black, for power transistors and temperatures up to 200 °C

Outlines for the most used insulating parts-see next page.

[1]) With connecting wire of 2.1 m length

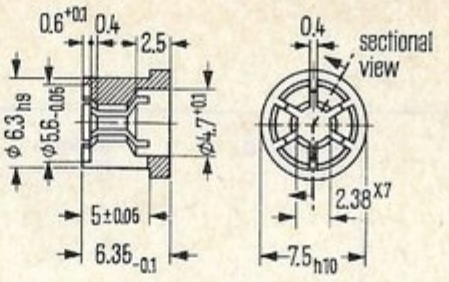
Usual mounting- and insulating-parts

Alpha-numerical index

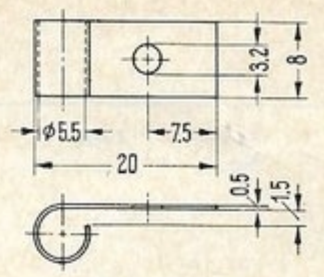
Please indicate this ordering code number when ordering at your nearest Siemens office ▼

Please indicate this Stock-number when ordering at our Central Components-Stock ▼

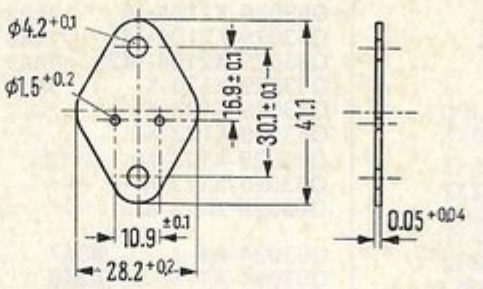
Type	Ordering code number	e. g. for type	Central-Components Stock No.	Outline
Adapter	Q 62701-A100	AAY 53		1
Heatsinking 5.5 ø	Q 62901-B 1	AC 121	8336	2
Mounting plate	Q 62901-B 2-A	TF 78/30	8337	5
Washer	Q 62901-B 2-B	TF 78/30	8338	6
Mica disc	Q 62901-B 11-A	AD 130	8339	3
Mica disc	Q 62901-B 13-A	AD 133	8340	4
Insulating nipple (black) Makrolon	Q 62901-B 13-B	AD 130	8341	13
Insulating nipple, Teflon	Q 62901-B 13-C	BU 110	8566	13
Insulating nipple, Siprelit (black)	Q 62901-B 50	BU Y 73		13
Mica disc	Q 62901-B 16-A	AD 148	8342	10
Mica disc	Q 62901-B 17-A	AD 136	8343	11
Mounting plate	Q 62901-B 17-B	AD 136	8344	7
Socket H 1 A	Q 62901-B 25	RHY 15		17
Socket H 1 B	Q 62901-B 26			18
Socket H 2 A	Q 62901-B 27	RHY 15 A		19
Socket H 2 B	Q 62901-B 28	RHY 20		20
Mica disc	Q 62901-B 40	BDY 87	8089	9
Mica disc	Q 62901-B 47	BUY 55	7228	8
Mica disc	Q 62901-B 48	BUY 57	7231	12
Mica disc (TO-66)	Q 62902-B 11-A	2 N 3054	7229	15
Insulating nipple	Q 62902-B 11-B	2 N 3054	7230	14
Mica disc	Q 62902-B 62	BD 135	7201	16
Spring washer A 3 DIN 137 (without outline)	Q 62902-B 63	BD 135	7202	—



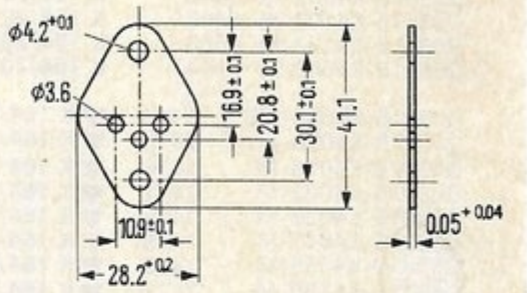
1 Adapter
Q 62701-A 100



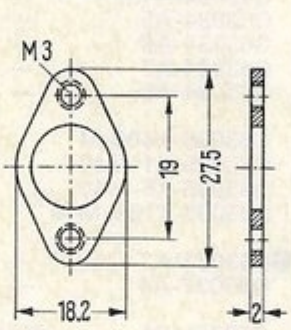
2 Heat sinking
Q 62901-B 1



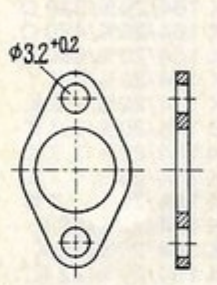
3 Mica disc
Q 62901-B 11-A



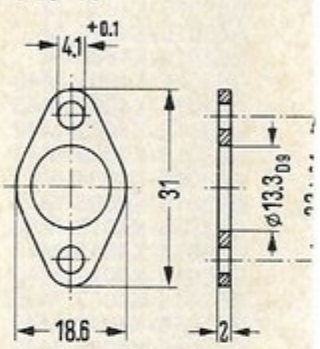
4 Mica disc
Q 62901-B 13-A



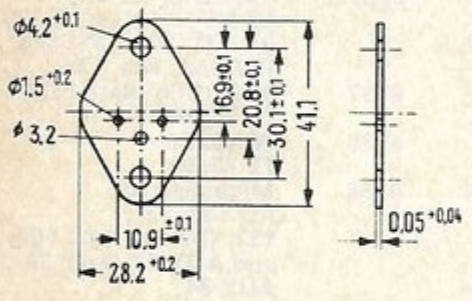
5 Mounting plate
Q 62901-B 2-A



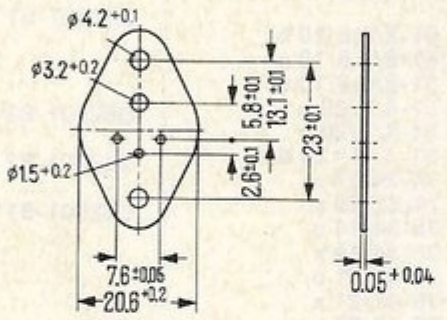
6 Washer
Q 62901-B 2-B



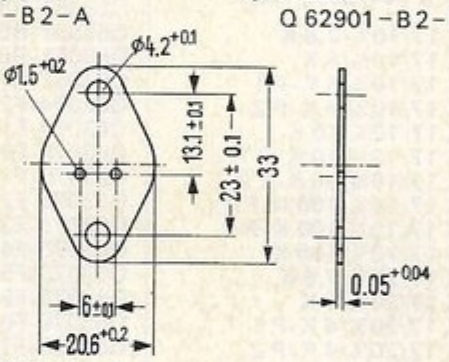
7 Mounting plate
Q 62901-B 17-B



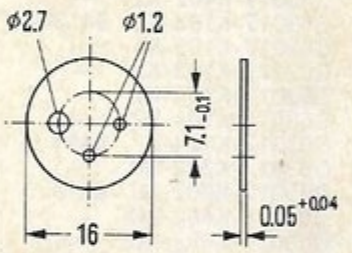
8 Mica disc
Q 62901-B 47



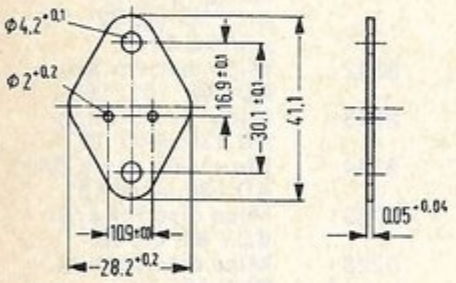
9 Mica disc
Q 62901-B 40



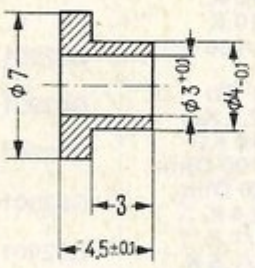
10 Mica disc
Q 62901-B 16-A



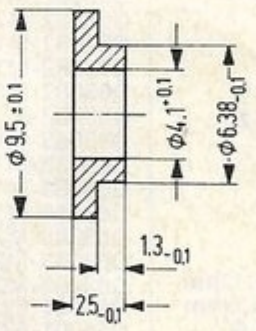
11 Mica disc
Q 62901-B 17-A



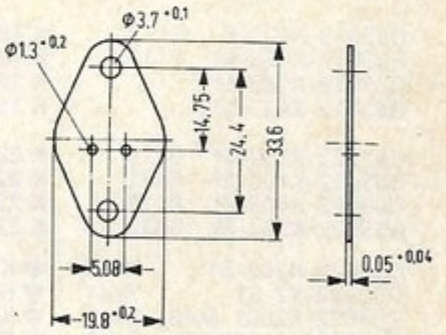
12 Mica disc
Q 62901-B 48



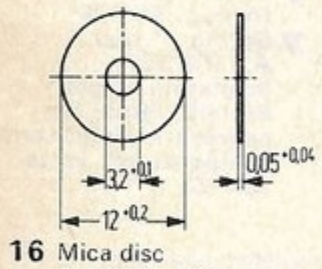
13 Insulating nipple
Macrolon (black)
Teflon (white)
Siprelit (black)



14 Insulating nipple
Q 62902-B 11-B

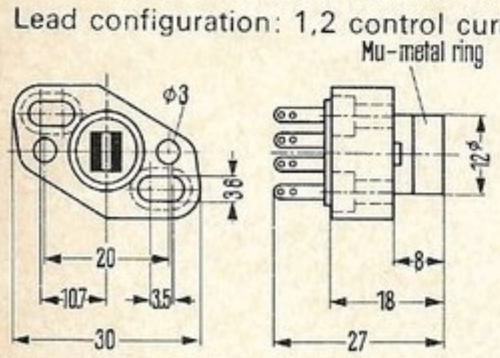


15 Mica disc
Q 62902-B 11-A (TO-66)

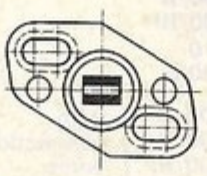


16 Mica disc
Q 62902-B62

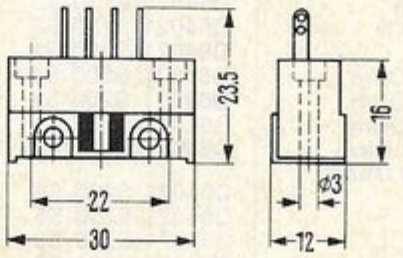
The hall generator RHY 15, RHY 15R and RHY 20 are available with sockets if required. (Seperate sockets are not available.)
Lead configuration: 1,2 control current, 3,4 hall voltage



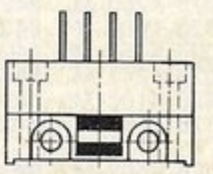
17 Moulded-material-holder with Mu-metal screening ring. Hall generator connections: AMP-plug, series 110. Soldering of connecting wires permitted. Q 62901-B 25



18 Hall generator rotated by 90° with reference to H 1 A



19 Moulded-material-holder without any screening. The 2 mounting holes are staggered by 90°. Hall generator connecting possibilities as for H 1. Q 62901-B 27



20 Hallgenerator rotated by 90° with reference to H 2 A
Q 62901-B 28

All dimensions in mm

B Integrated Circuits

I. Linear Integrated Circuits

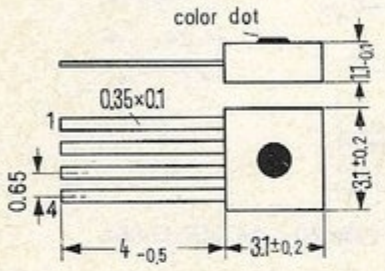
1. AF-Amplifiers

This analog linear amplifiers are especially useful as amplifiers for entertainment industry, for small Battery operated equipment.

Type	Order number	Function	V_s (max) (V)	G_V (1 kHz) (db)	f_U (kHz)
TAA 131	Q 61901-A 131	Three-stage AF-amplifier for hearing aids	5	65	> 20
TAA 151	Q 67000-A 1	Three-stage AF-amplifier	7	> 70	600
TAA 151 S	Q 67000-A 55	Three-stage AF-amplifier	12	> 70	600

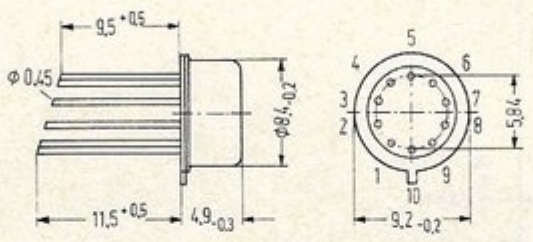
Case outlines

TAA 131



Plastic coating (U 38)
Weight approx. 0,02 g

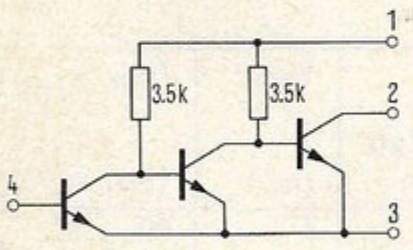
TAA 151
TAA 151 S



Case 5 J 10
DIN 41873 (similar to TO 100)
Weight approx. 1,1 g

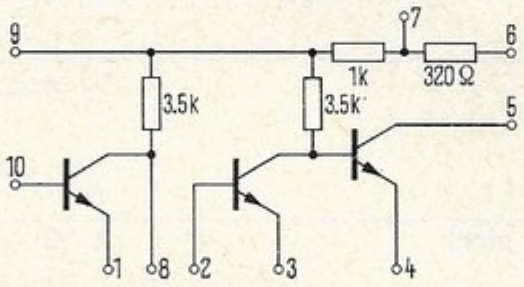
Circuit diagrams

TAA 131



TAA 151

TAA 151 S



2. Operational amplifiers

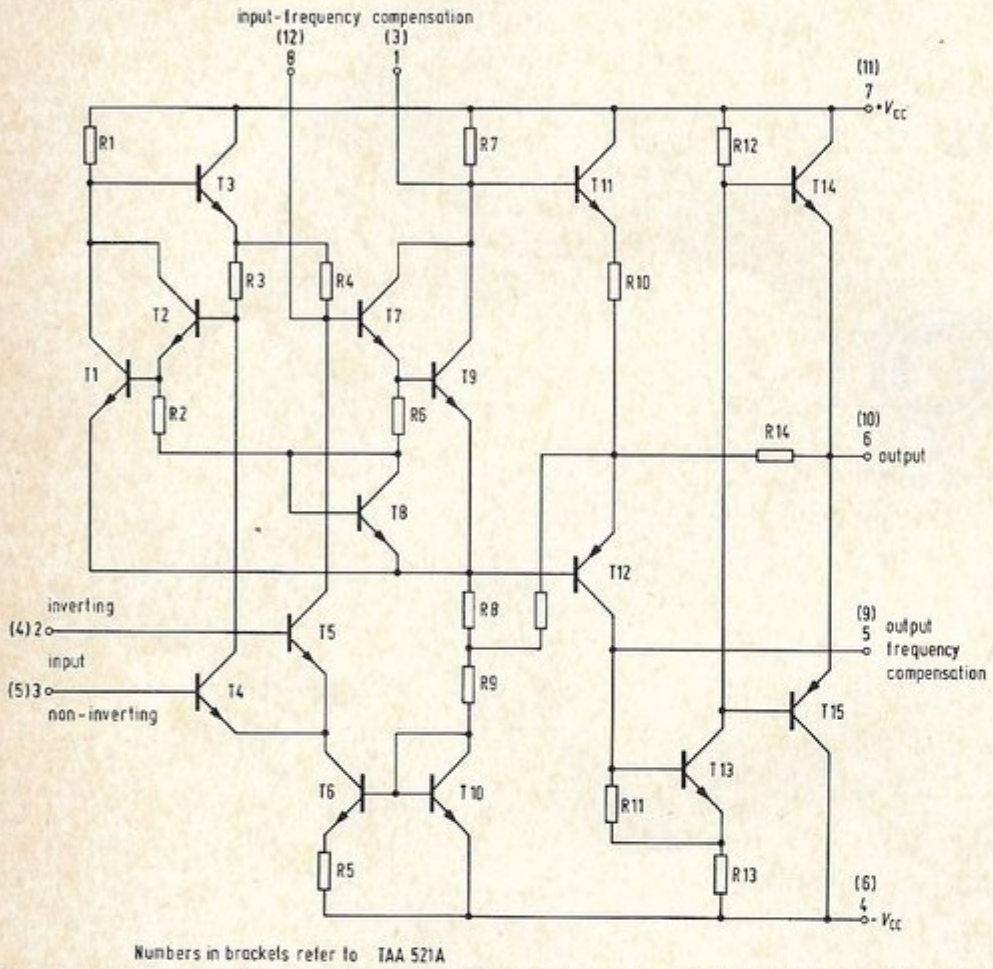
These operational amplifiers are DC amplifiers for use in industrial electronics.

Special features:

High-resistance symmetrical input; low-resistance single-ended output, excellent temperature stability, and high common-mode rejection.

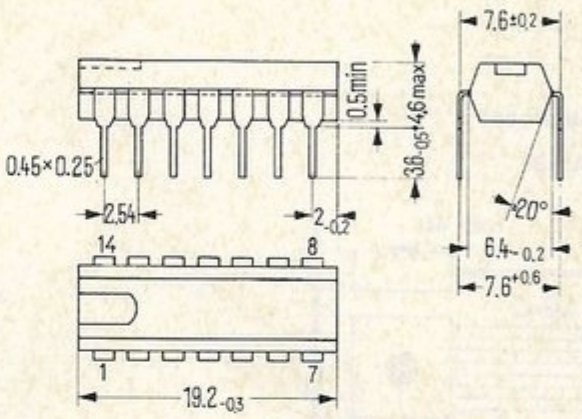
Type	Order number	Function	V_s (max) (V)	G_V R_L = 2 kΩ (db)	G R_G < 10 kΩ (db)	V_{EOS} (mV)	I_{EOS} (nA)
TAA 521	Q 67000-A 3	Universal Op Amp (metal case 8 pins) T_{amb} = 0 to 70 °C	± 18	93	90	2	100
TAA 521 A	Q 67000-A 164	Universal Op Amp (plastic dual-in-line 14 pins) T_{amb} = 0 to 70 °C	± 18	93	90	2	100
TAA 522	Q 67000-A 84	Universal Op Amp (metal case 8 pins) with extended temperature range T_{amb} = −55 to +125 °C)	± 18	93	90	1	50

Circuit diagram: operational amplifier TAA 521, 521 A, 522



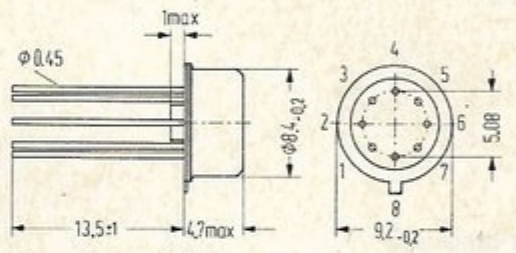
Numbers in brackets refer to TAA 521A

Package outlines: TAA 521 A



Plastic dual-in-line case 20 A 14 DIN 41 866
14 pins (TO-116)
Weight approx. 1.1 g

TAA 521, TAA 522

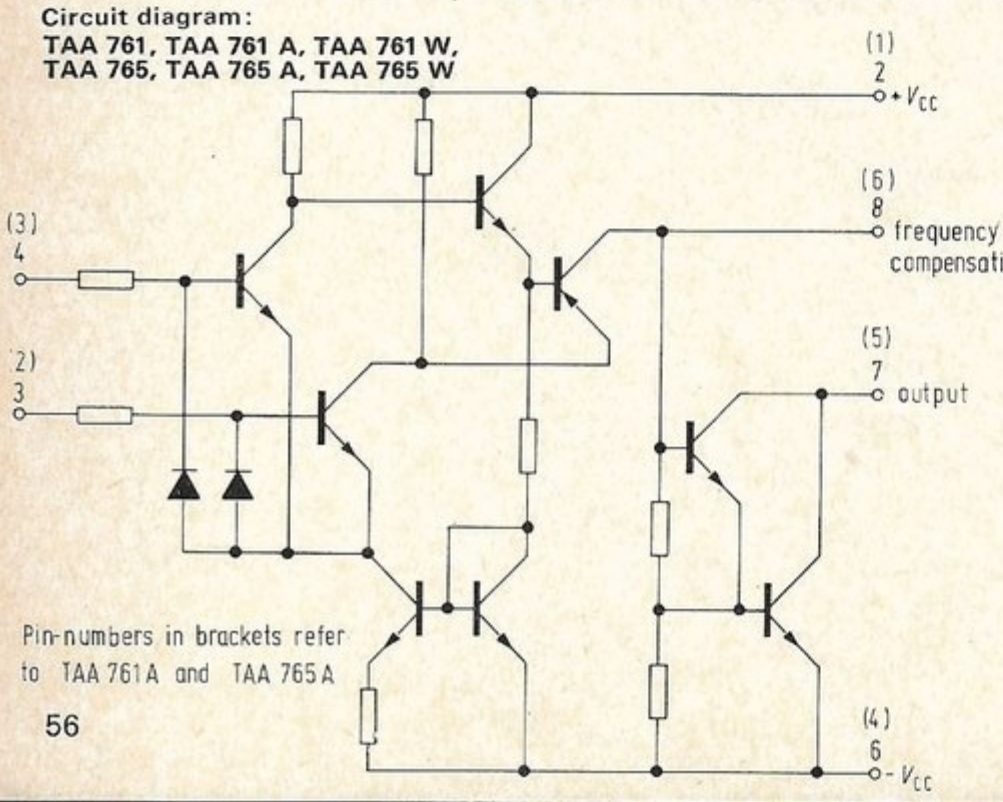


Case sim. to 5 G 8
DIN 41 873 (sim. to TO 99)
Weight approx. 1.1 g

Due to their high output current (70 mA) these operational amplifiers are particularly economic in their use and suitable for control engineering, electric devices for cars and analog computer engineering.

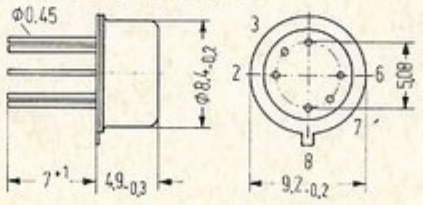
Type	Order number	Function	V_s (max) (V)	G_V R_L = 2 kΩ (db)	G R_L = 2 kΩ (db)	V_{EOS} (mV)	I_{EOS} (nA)
TAA 761	Q 67000-A 224	Op Amp (metal case 6 pins) T_{amb} = 0 to 70 °C	± 18	85	86	2	80
TAA 761 A	Q 67000-A 522	Op Amp, plastic (6 pins)	± 18	85	86	2	80
TAA 761 W	Q 67000-A 598	Op Amp (ceramic flatpack, 6 pins)	± 18	85	86	2	80
TAA 765	Q 67000-A 229	Op Amp (metal case 6 pins) with extended temperature range T_{amb} = −25 to +80 °C	± 18	85	86	2	80
TAA 765 A	Q 67000-A 524	Op Amp, plastic (6 pins) with extended temperature range T_{amb} = −25 to +80 °C	± 18	85	86	2	80
TAA 765 W	Q 67000-A 599	Op Amp, ceramic flatpack with extended temperature range T_{amb} = −25 to +80 °C	± 18	85	86	2	80

Circuit diagram:
TAA 761, TAA 761 A, TAA 761 W, TAA 765, TAA 765 A, TAA 765 W



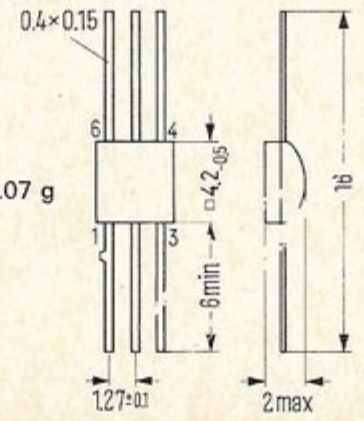
Pin-numbers in brackets refer to TAA 761A and TAA 765A

Package outlines: TAA 761, TAA 765



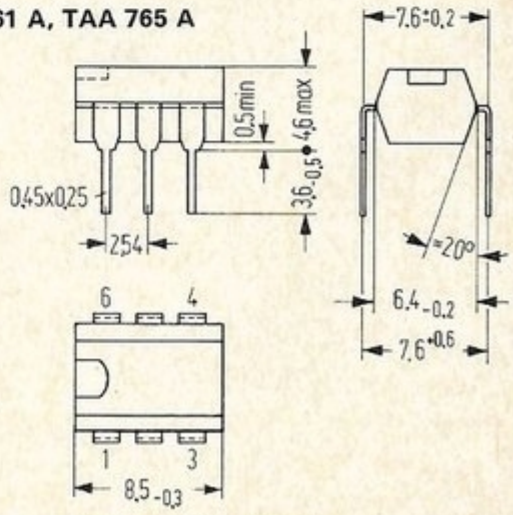
Case 5 H 6
DIN 41 873 (sim. to TO 78)
Weight approx. 1 g

TAA 761 W, TAA 765 W



Flatpack
Weight
approx. 0.07 g

TAA 761 A, TAA 765 A

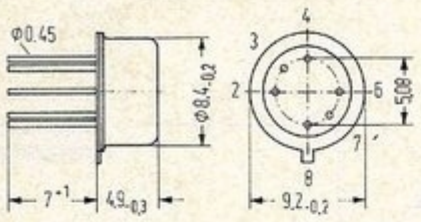


Plastic dual-in-line case
20 A 6 DIN 41 866
(6 pins)
Weight approx. 0.7 g

2. Operational amplifiers

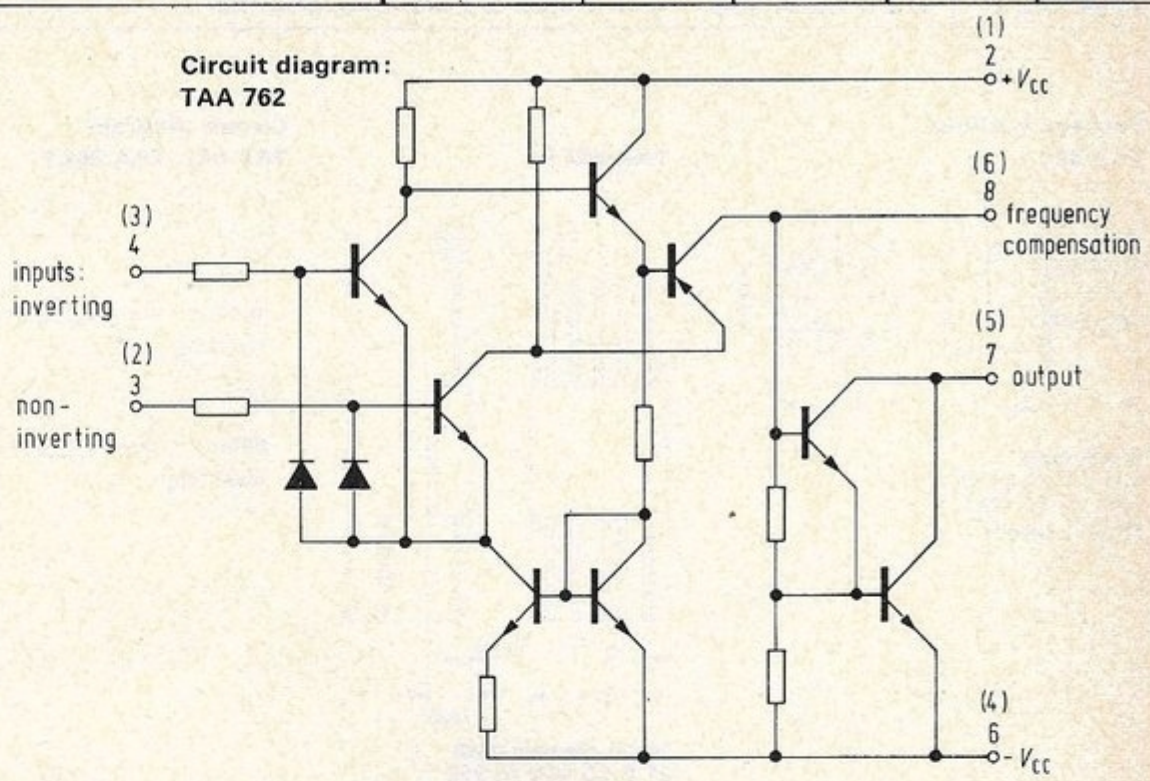
Type	Order number	Function	V_s (max) (V)	G_v (db)	G (db)	V_{EOS} (mV)	I_{EOS} (nA)
TAA 762	Q 67000-A 523	Universal Op Amp	± 18	88	89	2	50

Package outline:
TAA 762



Case 5 H 6
DIN 41873
(sim. to TO 78)
Weight approx. 1 g

Circuit diagram:
TAA 762

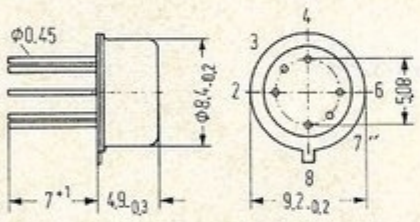


Pin-numbers in brackets refer to TAA 761A and TAA 765A

Type	Order number	Function	V_s (max) (V)	G_v (db)	G (db)	V_{EOS} (mV)	I_{EOS} (nA)
TAA 861	Q 67000-A 89	Op Amp with 70 mA driver current, as TAA 861, however, with an extended temperature range	± 10	80	81	4	80
TAA 861 A	Q 67000-A 278	(plastic dual-in-line, 6 pins)	± 10	80	81	4	80
TAA 861 W	Q 67000-A 574	like TAA 861, however, in ceramic flatpack	± 10	80	81	4	80
TAA 865	Q 67000-A 109	like TAA 861, however, with extended temperature range	± 10	80	81	4	80
TAA 865 A	Q 67000-A 279	(plastic dual-in-line, 6 pins)	± 10	80	81	4	80
TAA 865 W	Q 67000-A 650	like TAA 861, however, in ceramic flatpack	± 10	80	81	4	80

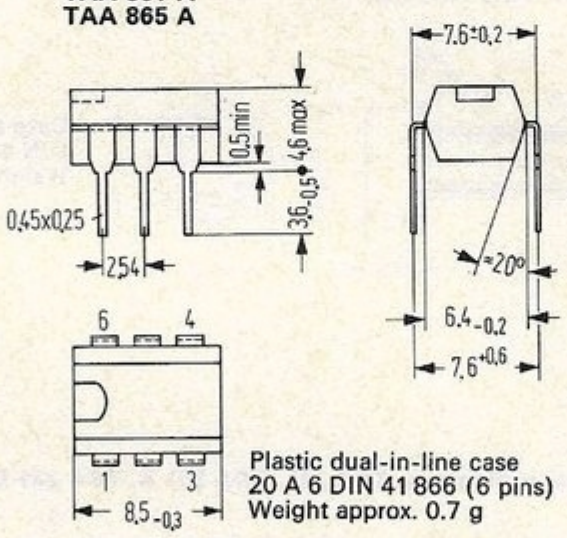
Package outlines:

TAA 861
TAA 865



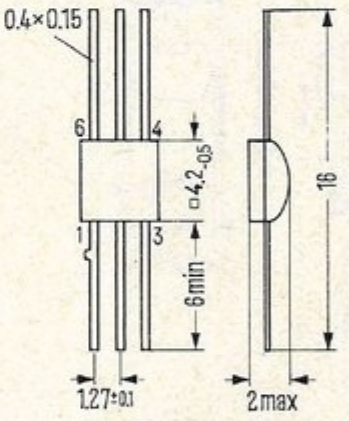
Case 5 H 6
DIN 41873 (sim. to TO 78)
Weight approx. 1 g

TAA 861 A
TAA 865 A



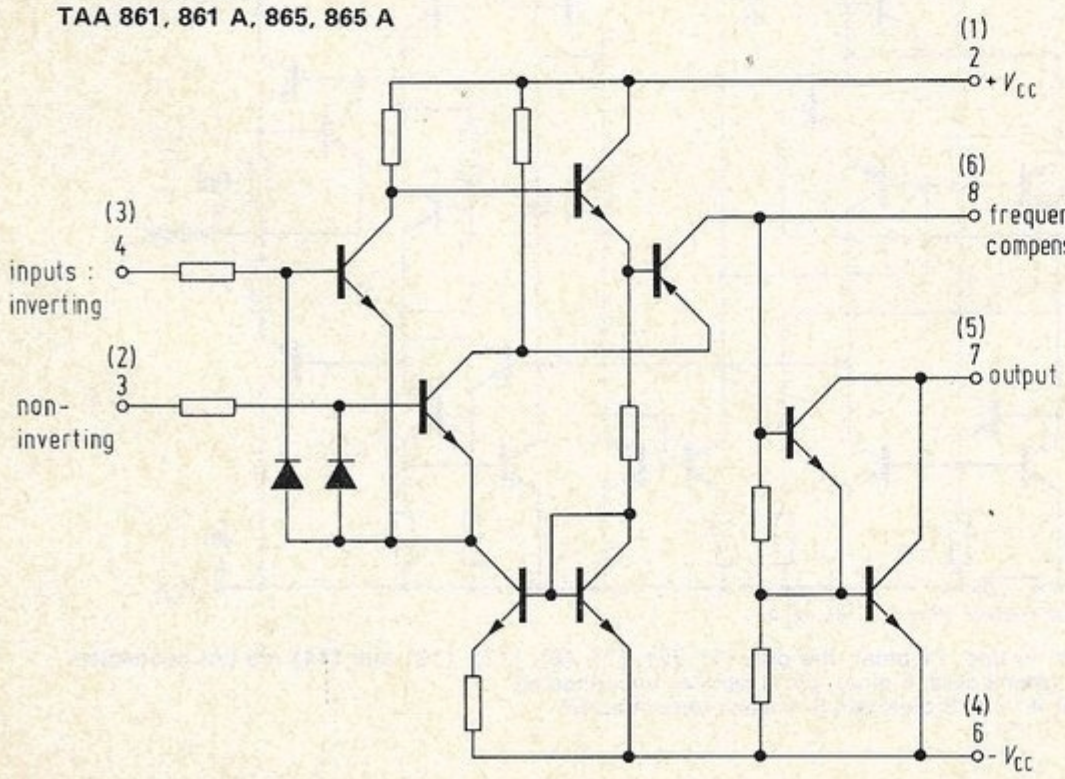
Plastic dual-in-line case
20 A 6 DIN 41866 (6 pins)
Weight approx. 0.7 g

TAA 861 W
TAA 865 W

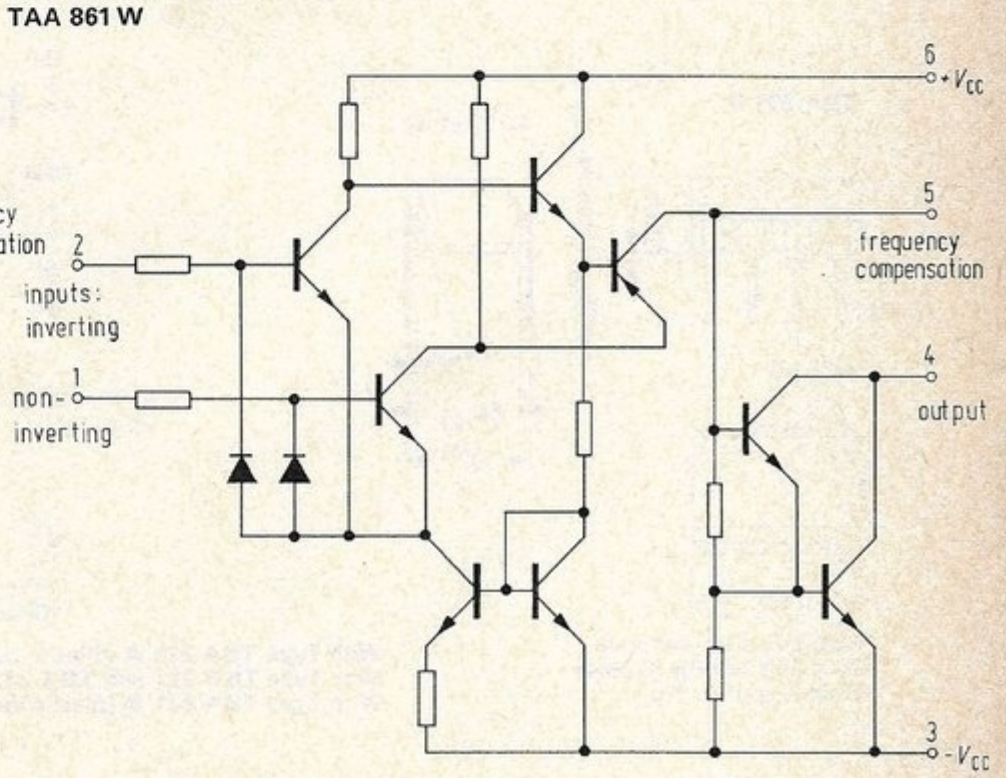


Ceramic flatpack
Weight approx. 0.07 g

Circuit diagram:
TAA 861, 861 A, 865, 865 A



Circuit diagram:
TAA 861 W

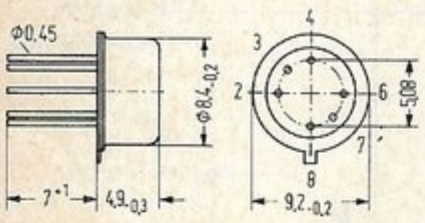


Connection numbers in brackets refer to TAA 861A and TAA 865A

2. Operational amplifiers

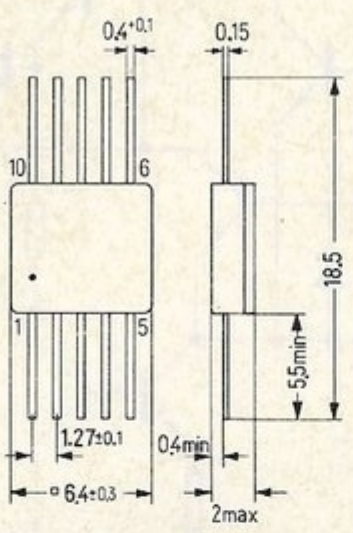
Type	Order number	Function	V_s (max) (V)	G_v (db)	G (db)	V_{EOS} (mV)	I_{EOS} (nA)
TAA 862	Q 67000-A 236	Universal Op erational amplifier	± 10	88	89	2	50
TAA 862 F	Q 67000-A 280	Universal Op erational amplifier	± 10	88	89	2	50

Package outlines:
TAA 862



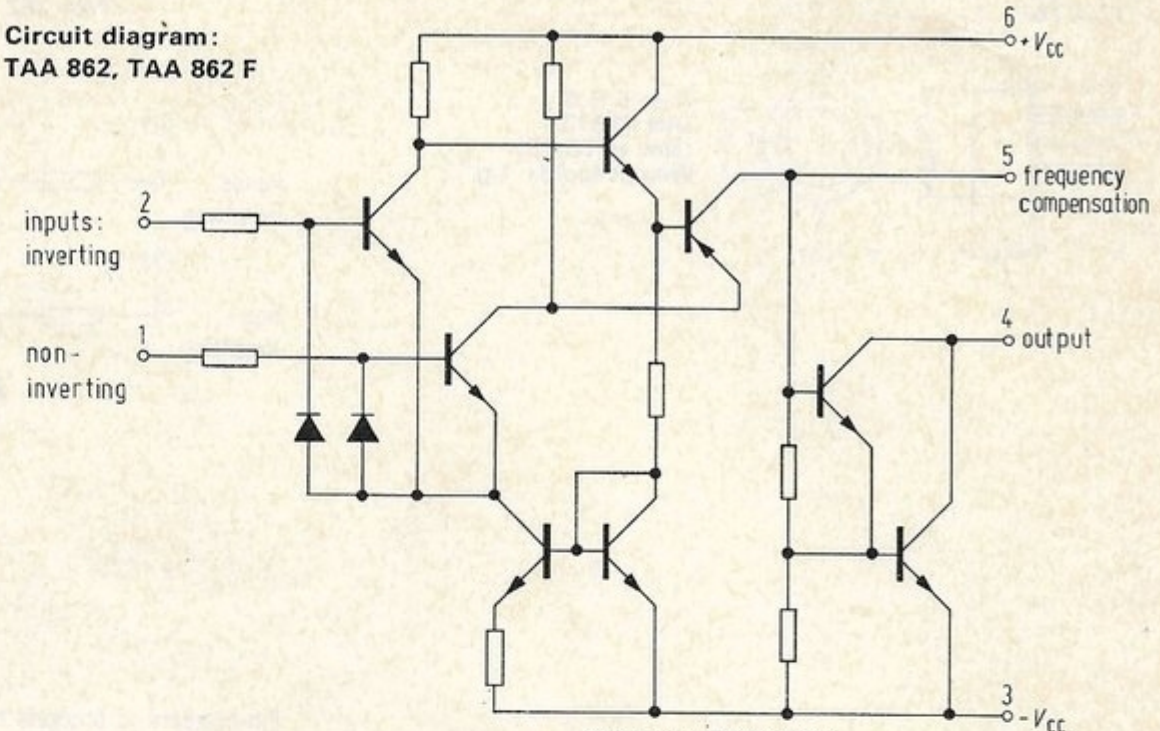
Metal case
5 H 6 DIN 41873
(sim. to TO-78)
Weight approx. 1 g

TAA 862 F



Metal-ceramic case
21 B 10 DIN 41865
(sim. to TO-91)
Weight approx. 1.1 g

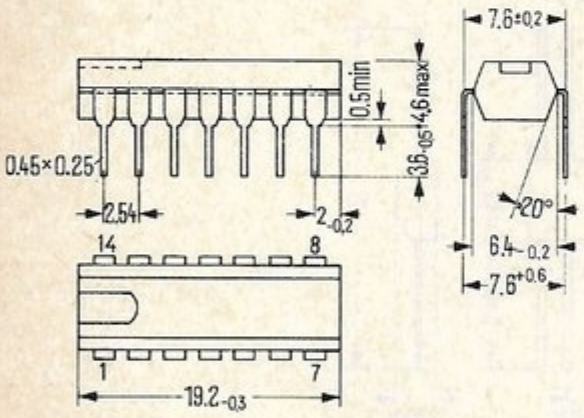
Circuit diagram:
TAA 862, TAA 862 F



() apply to TAA 862 F

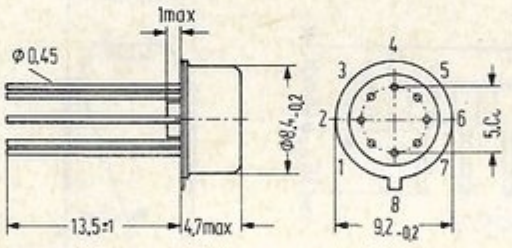
Type	Order number	Function	V_s (max) (V)	G_v (db)	G (db)	V_{EOS} (mV)	I_{EOS} (nA)
TBA 221	Q 67000-A 134	Op Amp, permanently short-circuit proof (metal case, 8 pins)	± 18	100	90	2	30
TBA 221 A	Q 67000-A 225	Op Amp, permanently short-circuit proof (plastic dual-in-line, 14 pins)	± 18	100	90	2	30
TBA 221 B	Q 67000-A 281	Op Amp, permanently short-circuit proof (plastic dual-in-line, 8 pins)	± 18	100	90	2	30
TBA 222	Q 67000-A 97	Op Amp, permanently short-circuit proof with extended operating temperature range (metal case)	± 22	106	90	1	30

Package outlines:
TBA 221 A



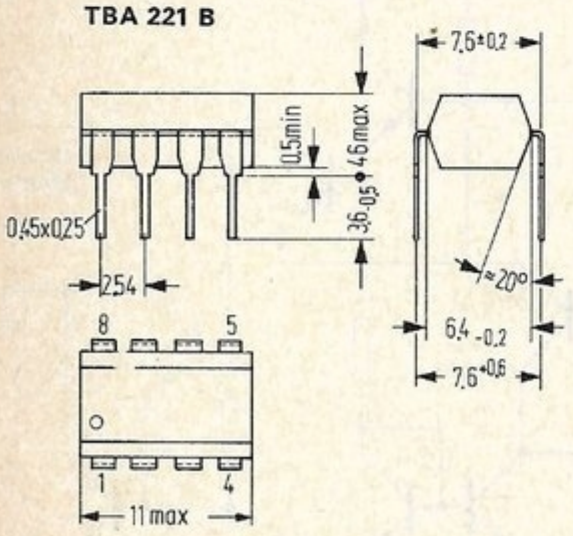
Plastic dual-in-line case
20 A 14 DIN 41866 (14 pins)
Weight approx. 1.1 g

TBA 221, TBA 222



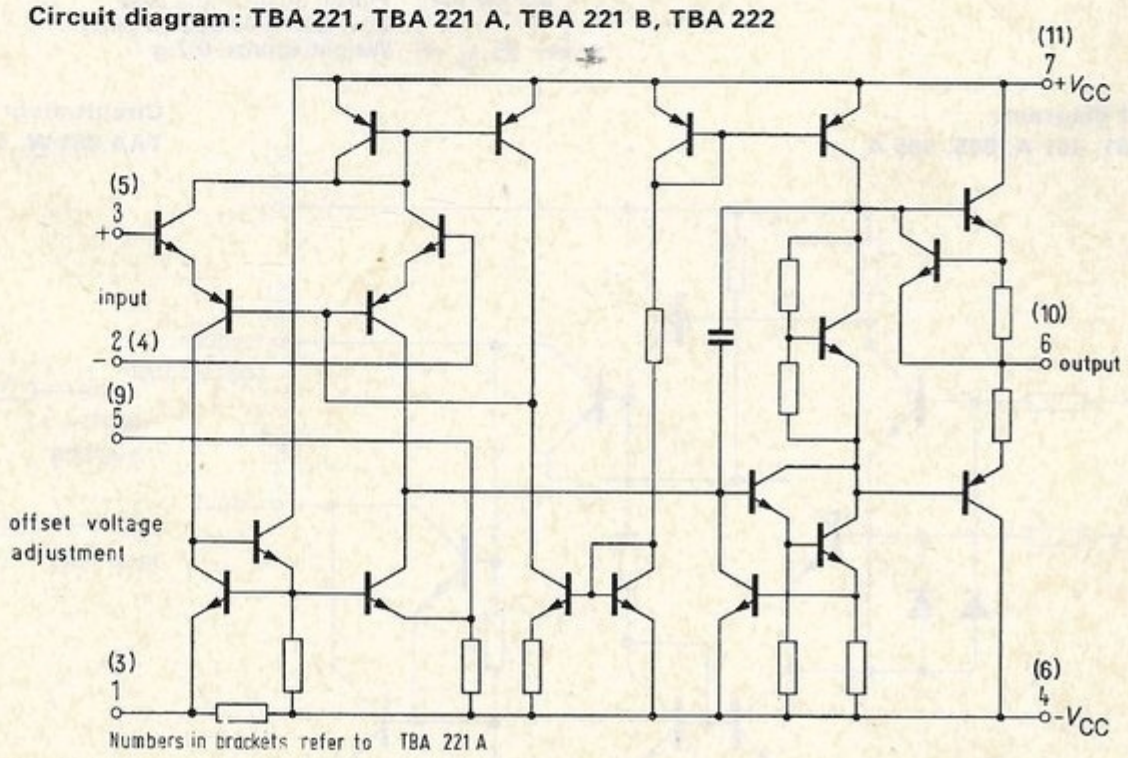
Case sim. to 5 G 8
DIN 41873 (sim. to TO 79)
Weight approx. 1.1 g

TBA 221 B



Plastic dual-in-line case
20 A DIN 41866 (8 pins)
Weight approx. 1 g

Circuit diagram: TBA 221, TBA 221 A, TBA 221 B, TBA 222

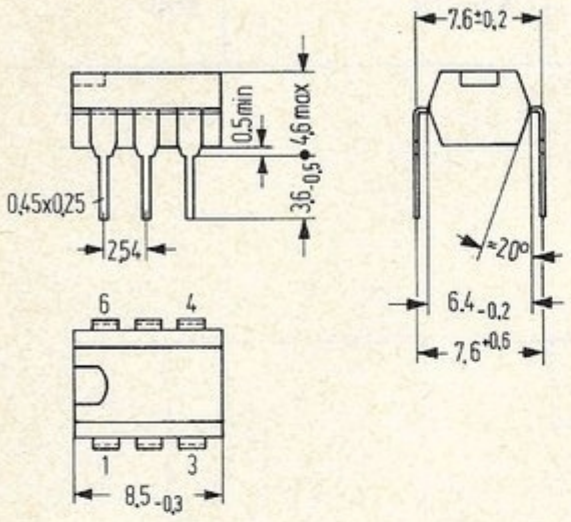


With Type **TBA 221 A** (Plastic dual-in-line, 14 pins), the pins (1), (2), (7), (8), (12), (13) and (14) are not connected.
With Type **TBA 221** and **TBA 222** (metal case, 8 pins), pin 8 remains unconnected.
With Type **TBA 221 B** (plastic dual-in-line, 8 pins) pin 8 remains unconnected.

2. Operational amplifiers

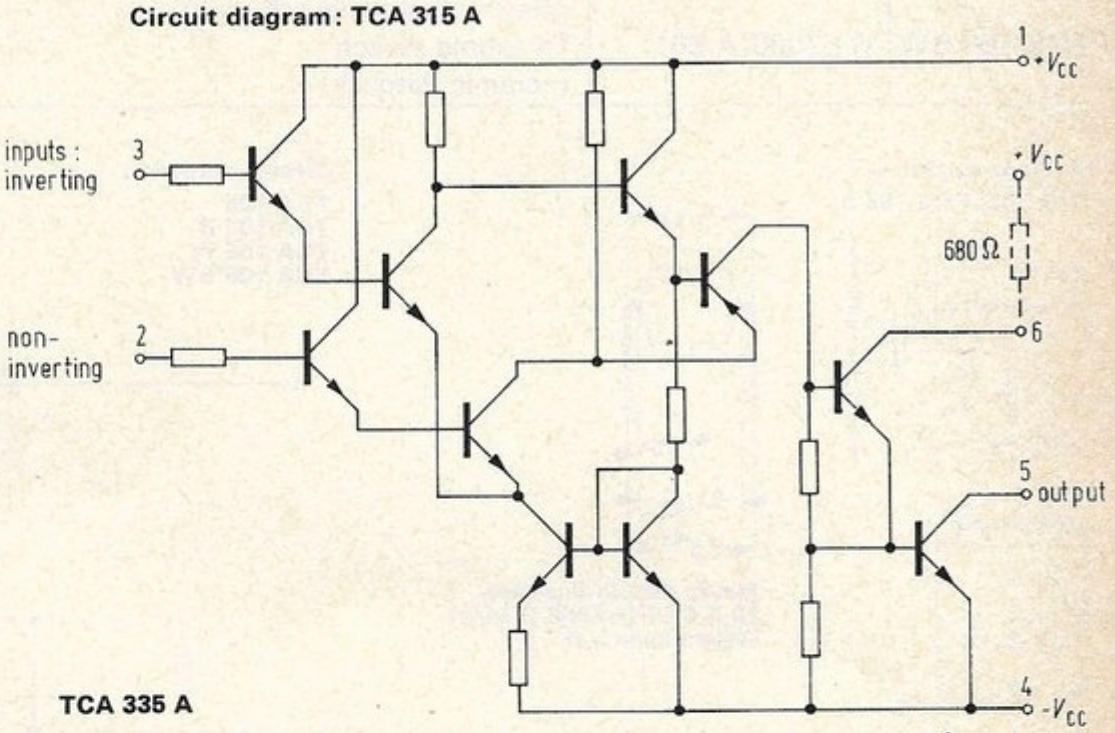
Type	Order number	Function	V_s (max) (V)	G_V (db)	G (db)	V_{EOS} (mV)	I_{EOS} (nA)
TCA 315 A	Q 67000-A 561	Op Amp (plastic dual-in-line, 6 pins)	± 15	84	85	10	10
TCA 325 A	Q 67000-A 562	Op Amp (plastic dual-in-line, 6 pins)	± 15	84	86	4	50
TCA 335 A	Q 67000-A 563	Op Amp with Darlington input (plastic dual-in-line, 6 pins)	± 15	84	85	10	10

Package outline: TCA 315 A, TCA 325 A, TCA 335 A

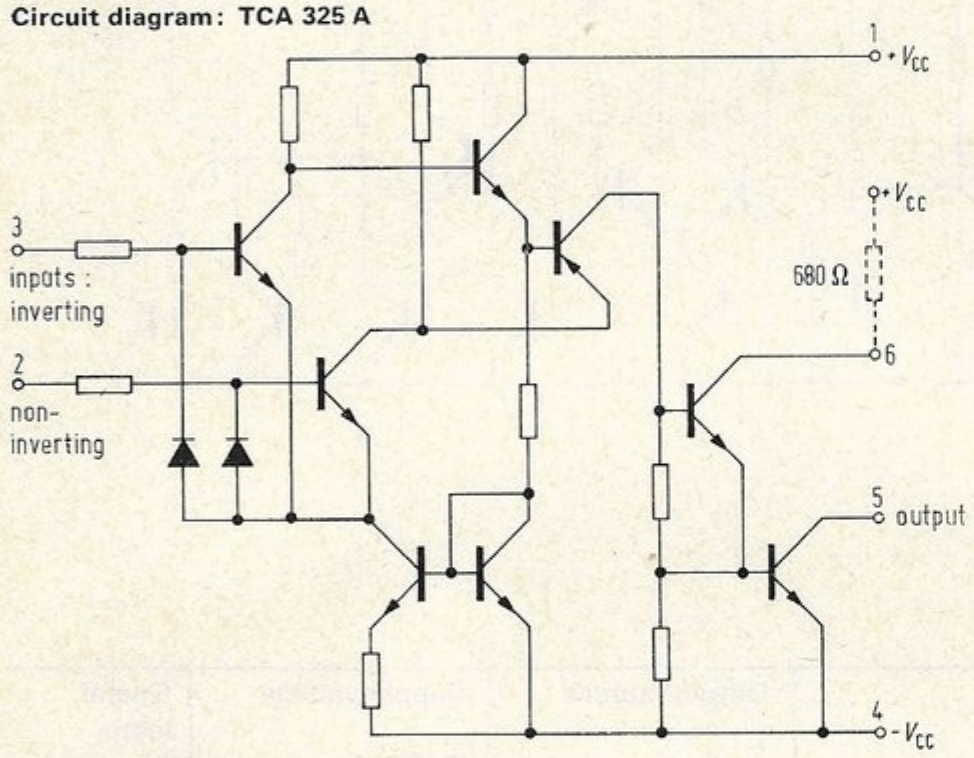


Plastic dual-in-line case
20 A 6 DIN 41866 (6 pins)
Weight approx. 0.7 g

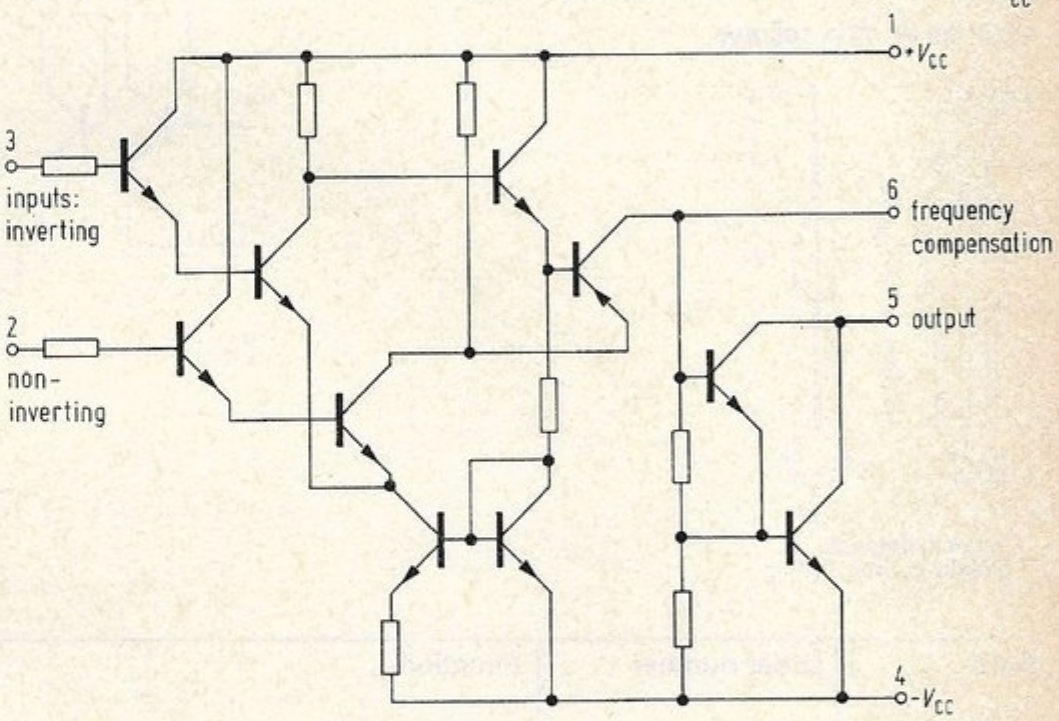
Circuit diagram: TCA 315 A



Circuit diagram: TCA 325 A



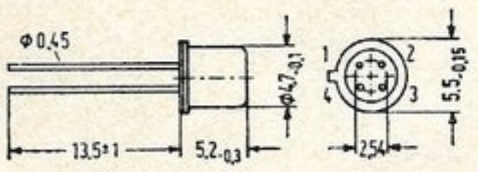
TCA 335 A



3. Microphone amplifiers

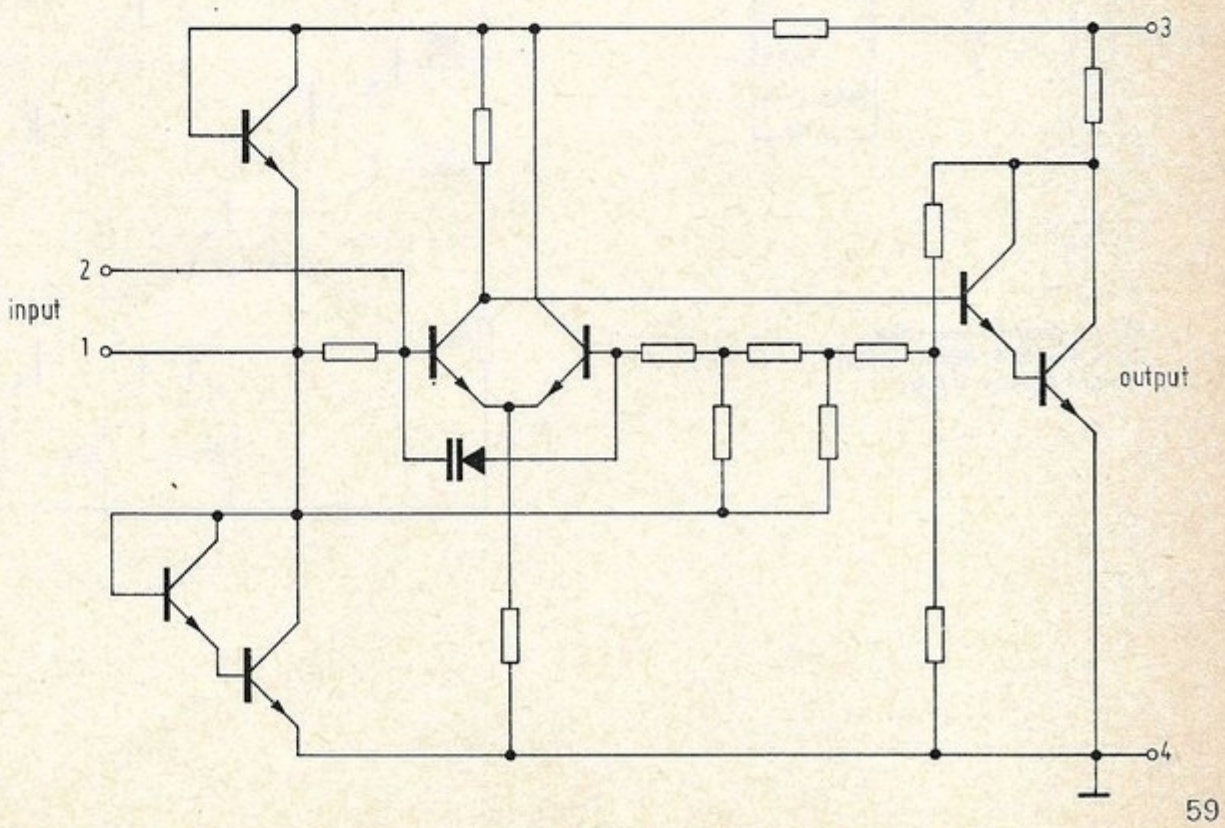
Type	Order number	Function	V_s $V_{3/4}$ (V)	Voltage gain G_V (db)	Distortion factor K (%)
TBA 830 G	Q 67000-A 546	Two-stage microphone amplifier	12	40	0,5
TBA 830 R	Q 67000-A 547	for use in piezoelectric microphones for telephone sets	12	42,2	0,5

Package outline: TBA 830 G; TBA 830 R



Case 18 A 4 DIN 41876 (sim. to TO-72)
Weight approx. 0.4 g; dimensions in mm

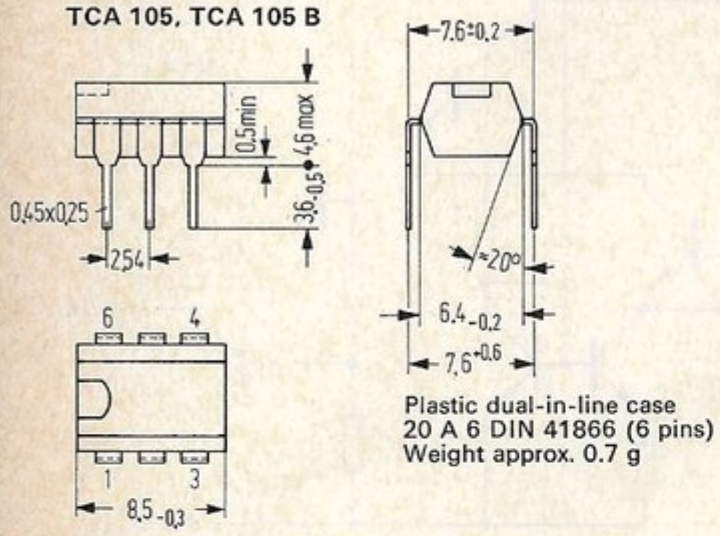
Circuit diagram: TBA 830 G; TBA 830 R



4. Threshold switches

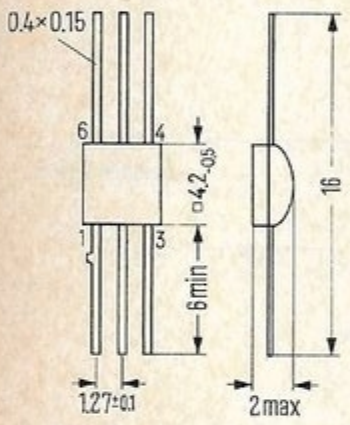
Type	Order number	Function	Output voltage at I_A = 50 mA V_O (V)	Range of operation at 0 to 15 kHz (V)	Thermal resistance $R_{th\ S\ case}$ (k/W)
TCA 105	Q 67000-A 527	Threshold switch, TTL compatible (plastic dual-in-line, 6 pins)	30	4.5–27	140
TCA 105 W	Q 67000-A 600	Threshold switch, TTL compatible (ceramic flatpack)	30	4.5–27	200
TCA 105 B	Q 67000-A 587	Threshold switch (plastic dual-in-line, 6 pins)	20	4.5–18	140
TCA 105 BW	Q 67000-A 601	Threshold switch (ceramic flatpack)	20	4.5–18	200

Package outlines:
TCA 105, TCA 105 B



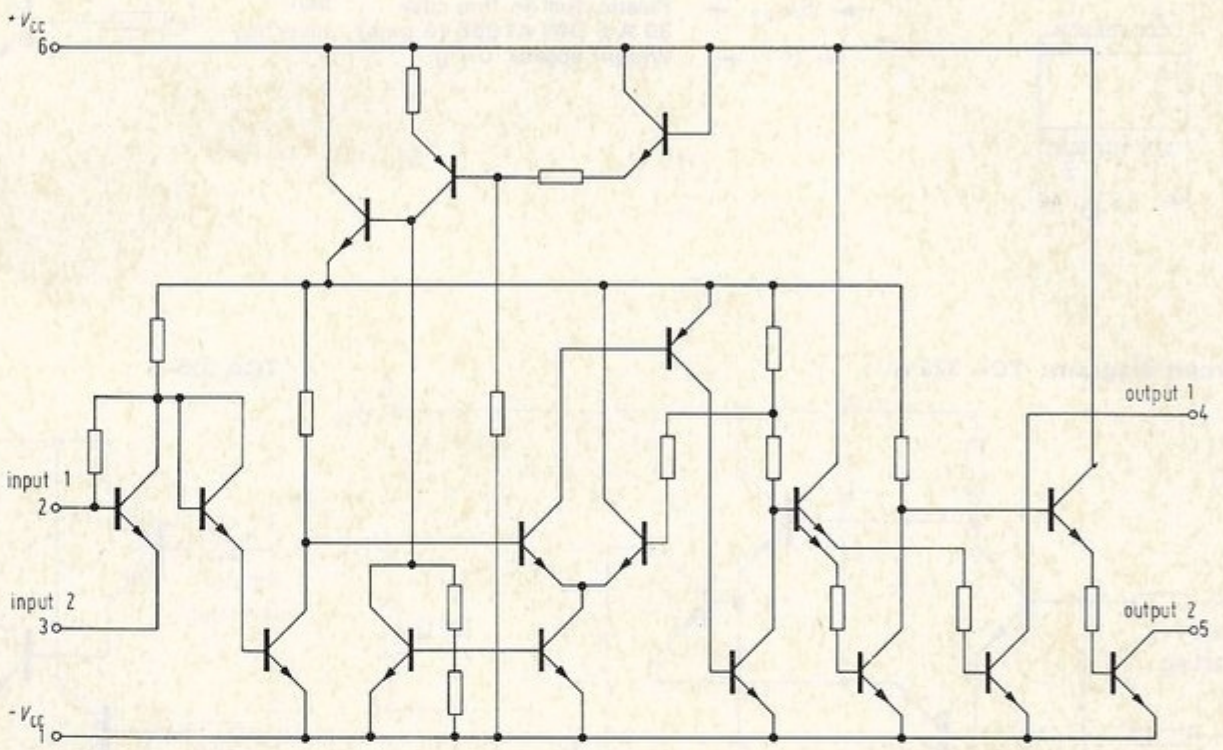
Plastic dual-in-line case
20 A 6 DIN 41866 (6 pins)
Weight approx. 0.7 g

TCA 105 W, TCA 105 BW



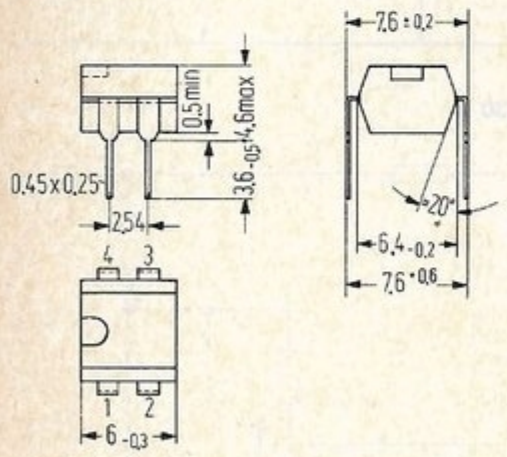
Ceramic flatpack
Weight approx. 0.07 g

Circuit diagram:
TCA 105
TCA 105 B
TCA 105 W
TCA 105 BW



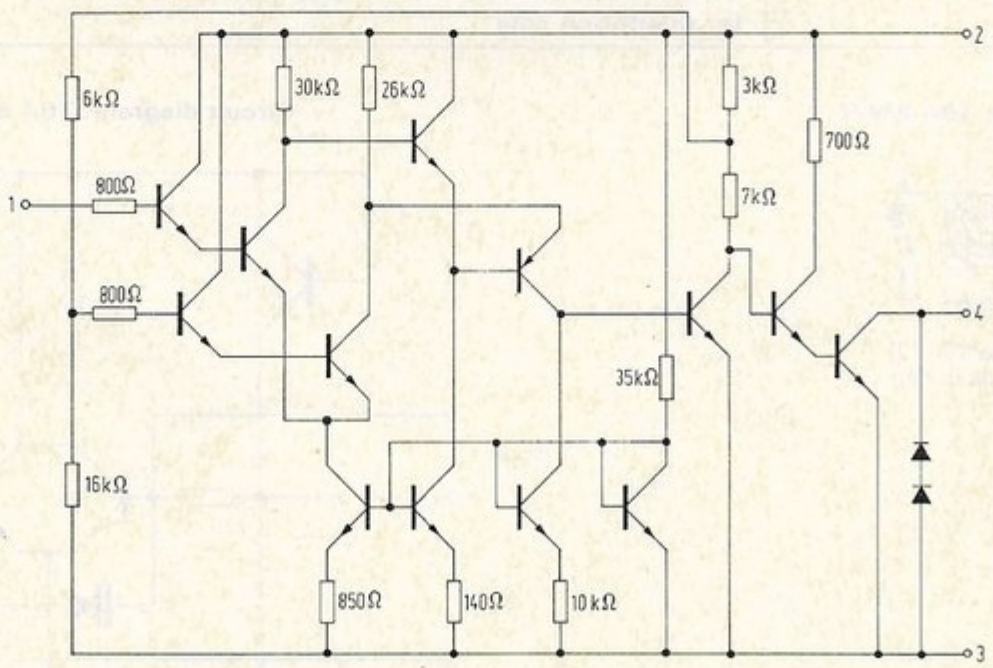
Type	Order number	Function	Output current I_A (mA)	Supply voltage V_S (V)	Operat. temp. T_{amb} °C
TCA 345 A	Q 67000-A 564	Threshold switch for battery operation (plastic dual-in-line, 4 pins)	25	2 and 3	−25 to 85

Package outline:
TCA 345 A



Plastic dual-in-line case
20 A 4 DIN 41866 (4 pins)
Weight approx. 0.5 g

Circuit diagram:
TCA 345 A



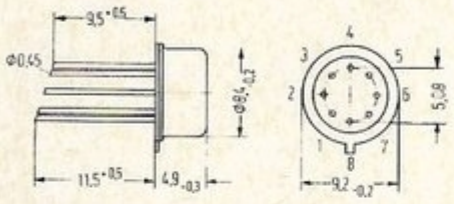
5. Broadband amplifiers

These IC's are high-speed DC voltage amplifiers with a large bandwidth.

Type	Order number	Function	V_S (max) (V)	G_V (db)	G (db)
TAA 721	Q 67000-A 82	Broadband amplifiers with differential input and	± 8	39,6	80
TAA 722	Q 67000-A 83	output and differential output of 40 MHz bandwidth	± 8	39,6	85
TBA 400	Q 67000-A 228	Adjustable broadband amplifier (video IF Amp)	14	60	– } without circuit
TBA 400 D	Q 67000-A 623	with sym. input and output (plastic dual-in-line)	14	60	– } diagram

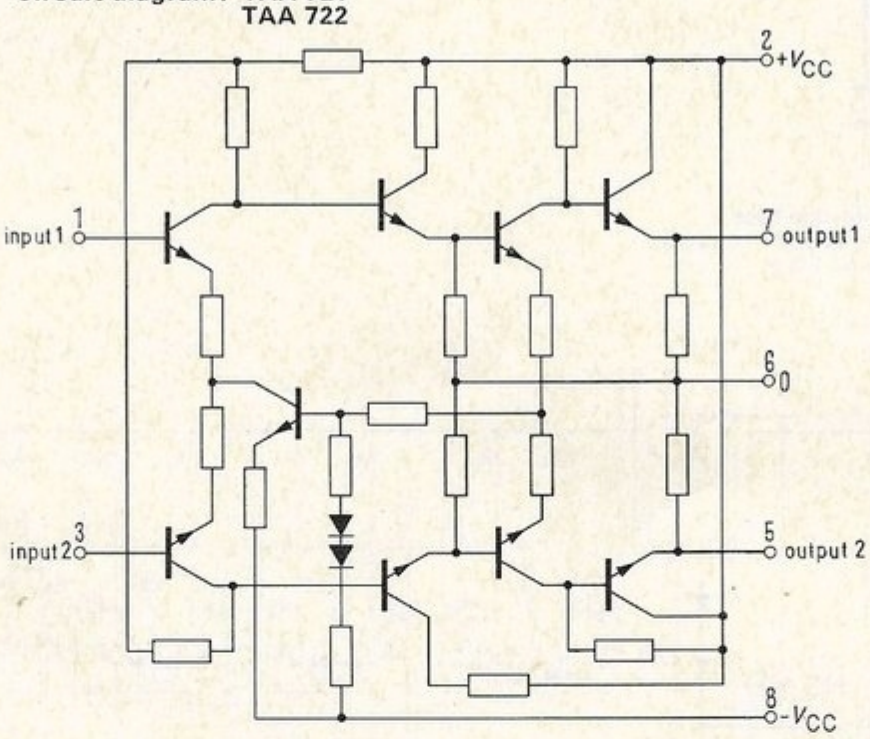
Case outlines:

TAA 721
TAA 722

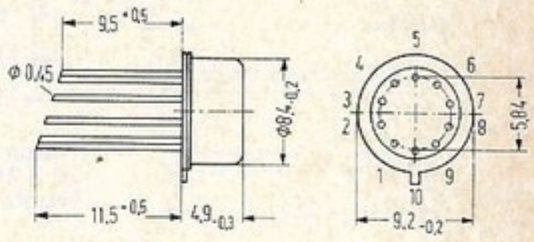


Case 5 G 8
DIN 41783 (sim. to TO-78)
Weight approx. 1.1 g

Circuit diagram: TAA 721
TAA 722

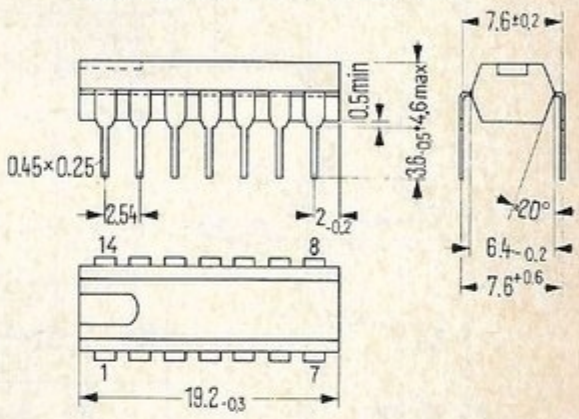


Case outlines:
TBA 400



Case 5 J 10
DIN 41873 (sim. to TO-100)
Weight approx. 1.1 g

TBA 400 D, TCA 671, SO-255



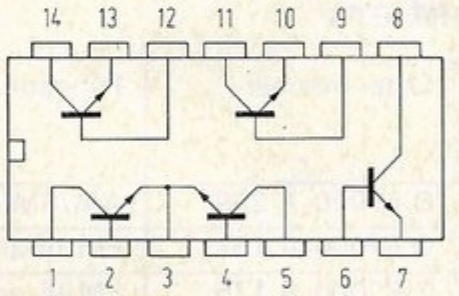
Plastic dual-in-line case
20 A 14 DIN 41866 (14 pins)
Weight approx. 1.1 g

6. Transistor-Array with 5 Silicon-NPN-Transistors

Static forward current transfer ratio h_{FE} = 100;
(at I_C = 2 mA, 5 V + V_{CE})

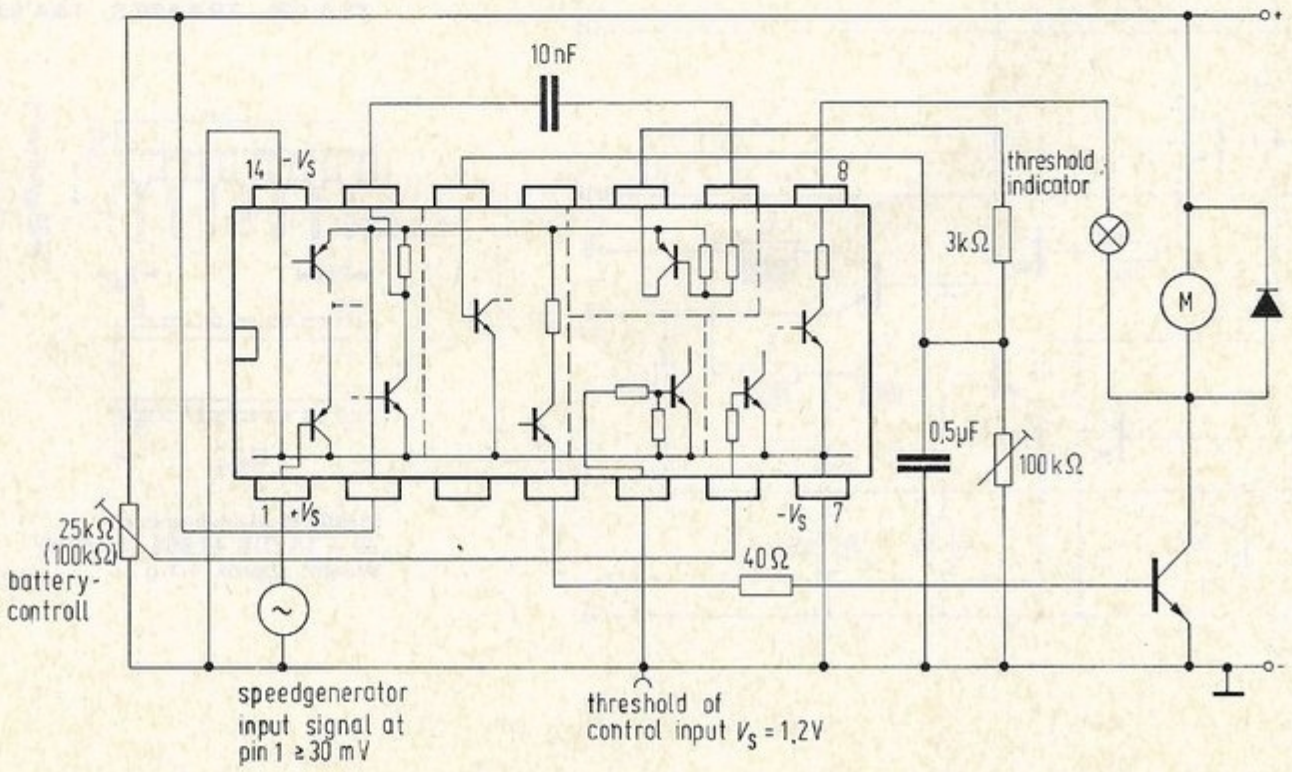
Type	V_{CBO} (V)	I_C mA	P_{tot} (mW)	f_r MHz	Package plastic
TCA 671	45	200	500	350	DIL 14

Basic circuit diagram for TCA 671



7. Speed Control

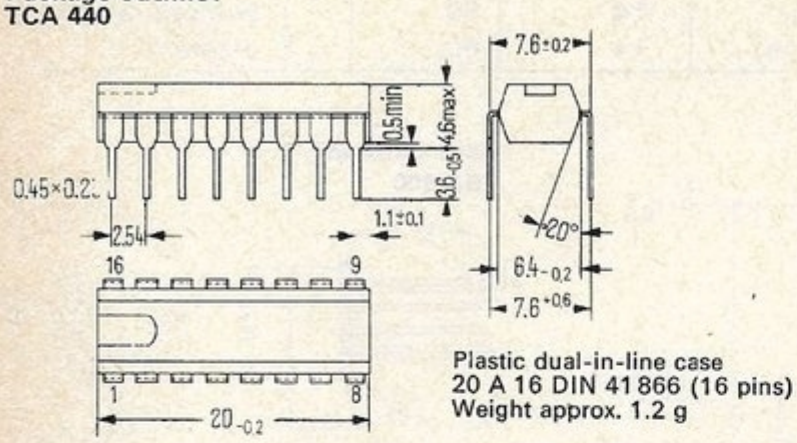
Type	Operating voltage (V)	Output current (mA)	Speed range n (r. p. m.)	Package plastic
SO 255	18	60	1800 to 9000	DIL 14



8. AM-Receiver circuit

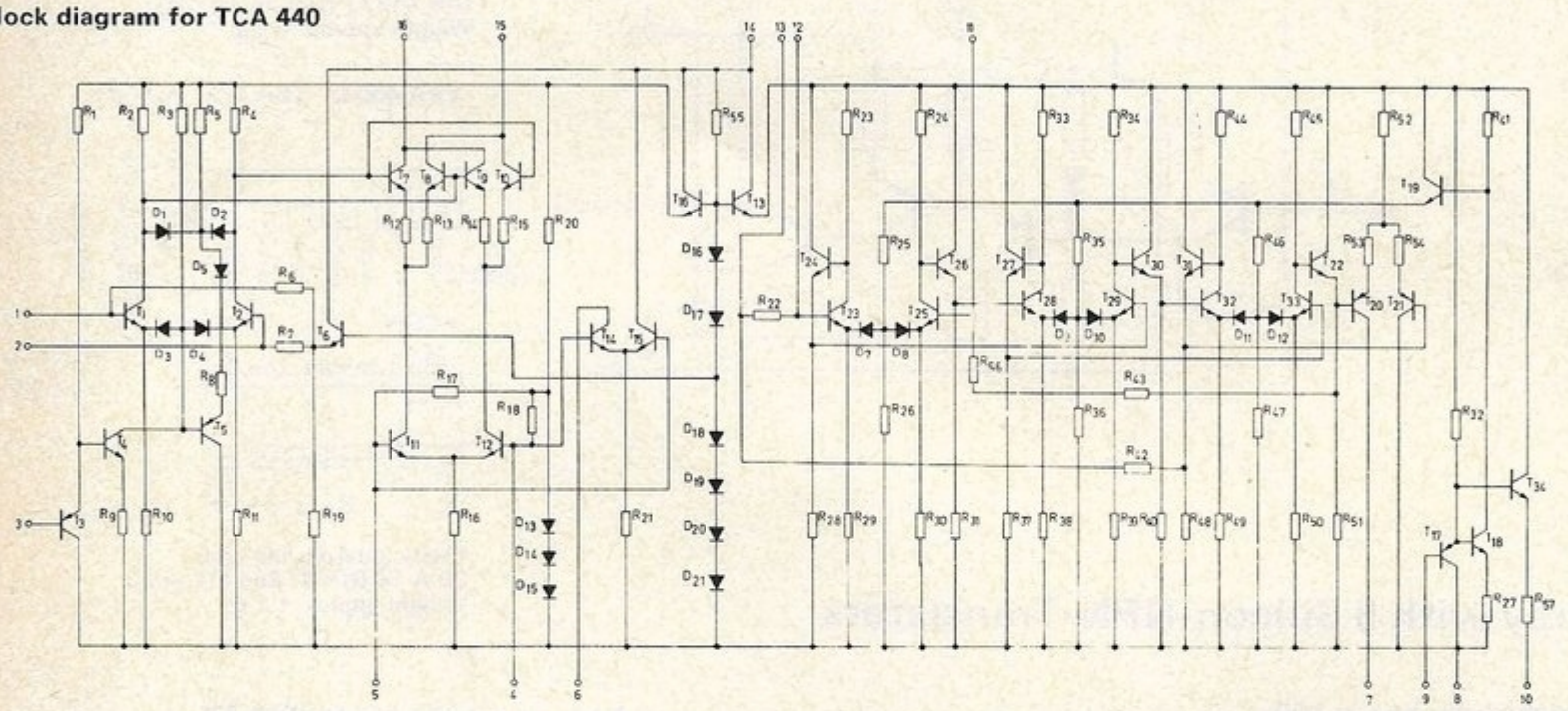
Type	Order number	Function	V_S (V)	$f_{i\,RF}$ (MHz)	$f_{i\,ZF}$ (MHz)	Gain Control Range (db) RF-Part	*I* F-Part
TCA 440	Q 67000-A 669	Monolithic integrated circuit, comprises a controlled preselector, mixer, separate oscillator and a controlled IF amplifier	4.5–15	0–50	0–2	38	62

Package outline:
TCA 440



Plastic dual-in-line case
20 A 16 DIN 41866 (16 pins)
Weight approx. 1.2 g

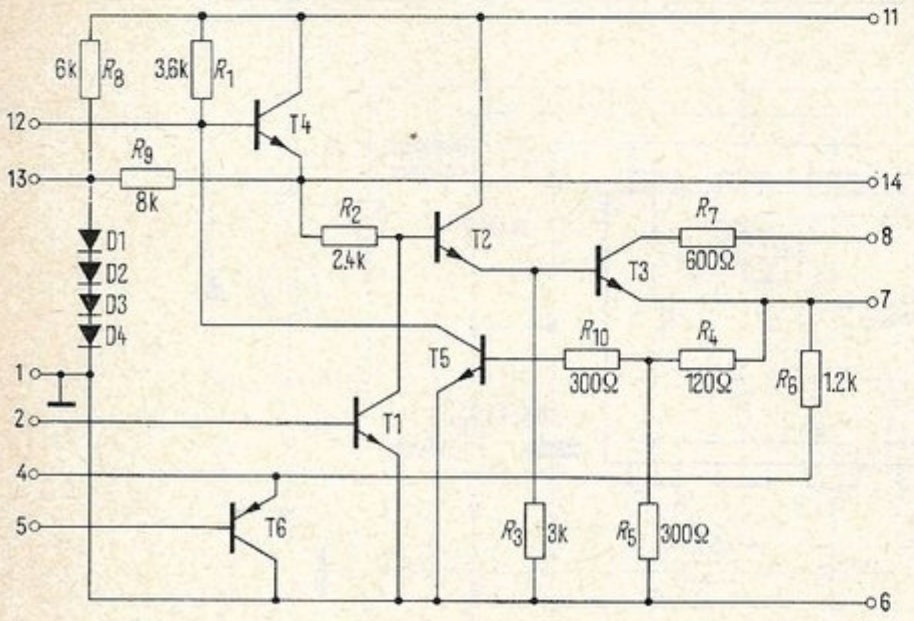
Block diagram for TCA 440



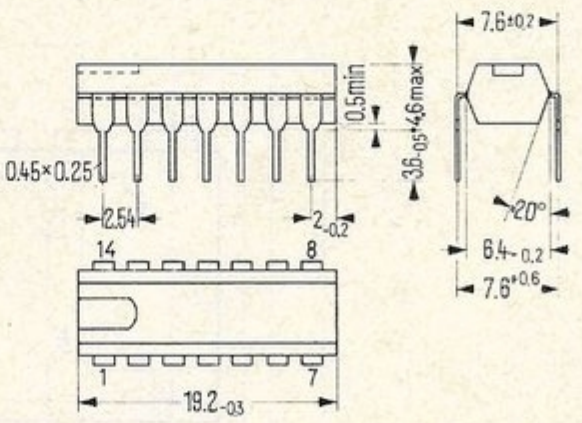
9. IF Amplifiers

Type	Order number	Function	V_S (max) (V)	G_V (FM) (db)	G_V (AM) (db)	V_{AF} (eff) (mV)
TAA 991 D	Q 67000-A 289	AM/FM IF-amplifier (in DIL 14 package)	11	86	90	300
TBA 120	Q 67000-A 151	FM IF-amplifier and demodulator (DIL 14)	15	60	–	1200
TBA 120 A	Q 67000-A 175	FM IF-amplifier and demodulator (QIL 14)	15	60	–	1200
TBA 120 S	Q 67000-A 490	FM IF-amplifier and demodulator (DIL 14)	18	68	–	1000
TBA 120 AS	Q 67000-A 525	FM IF-amplifier and demodulator (QIL 14)	18	68	–	1000
TBA 440 C	Q 67000-A 282	Video IF-amplifier with demodulator (DIL 16)	15	without circuit diagram		

Circuit diagram TAA 991 D

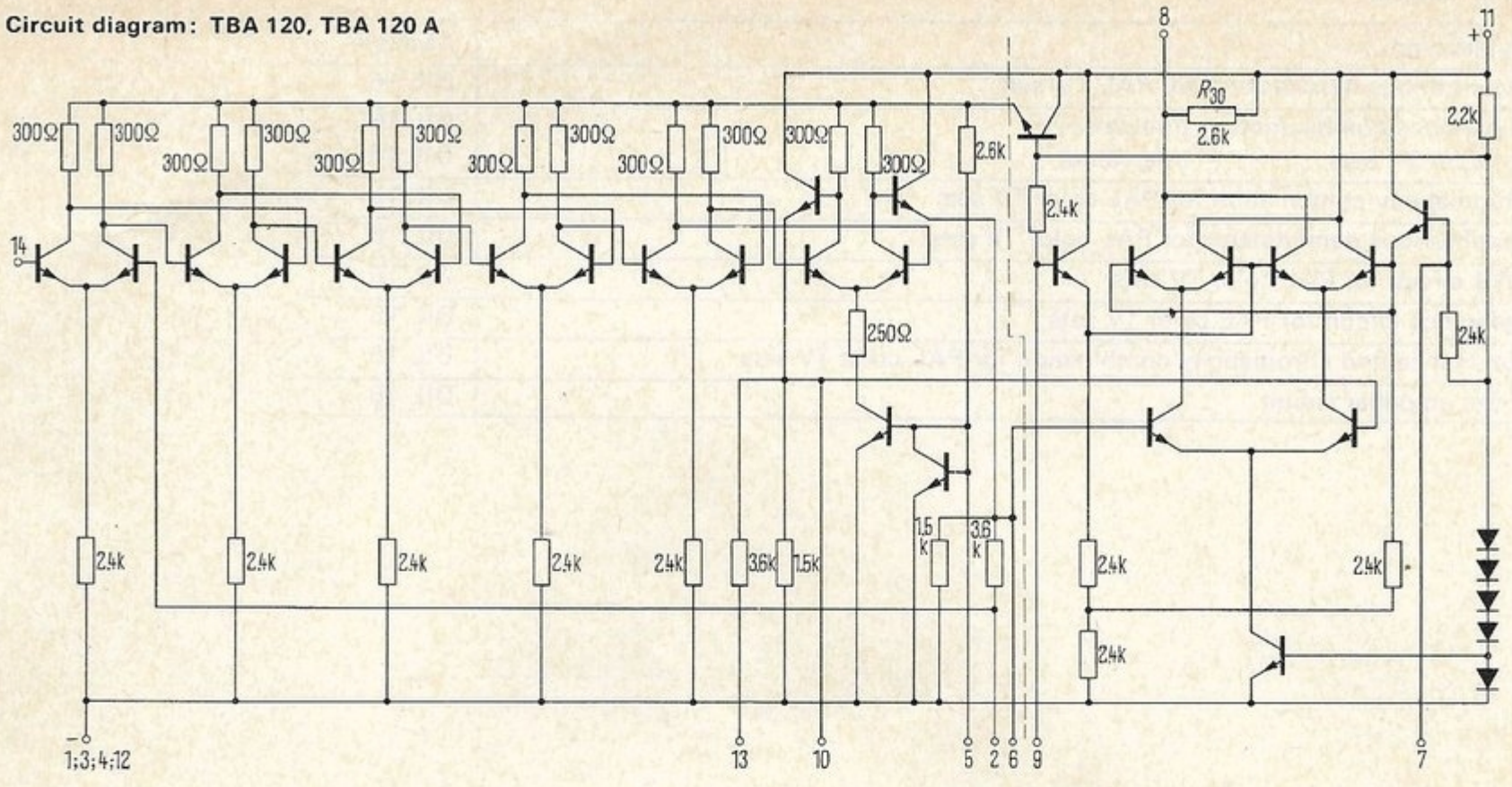


Package outline:
TBA 120, TBA 120 S, TAA 991 D

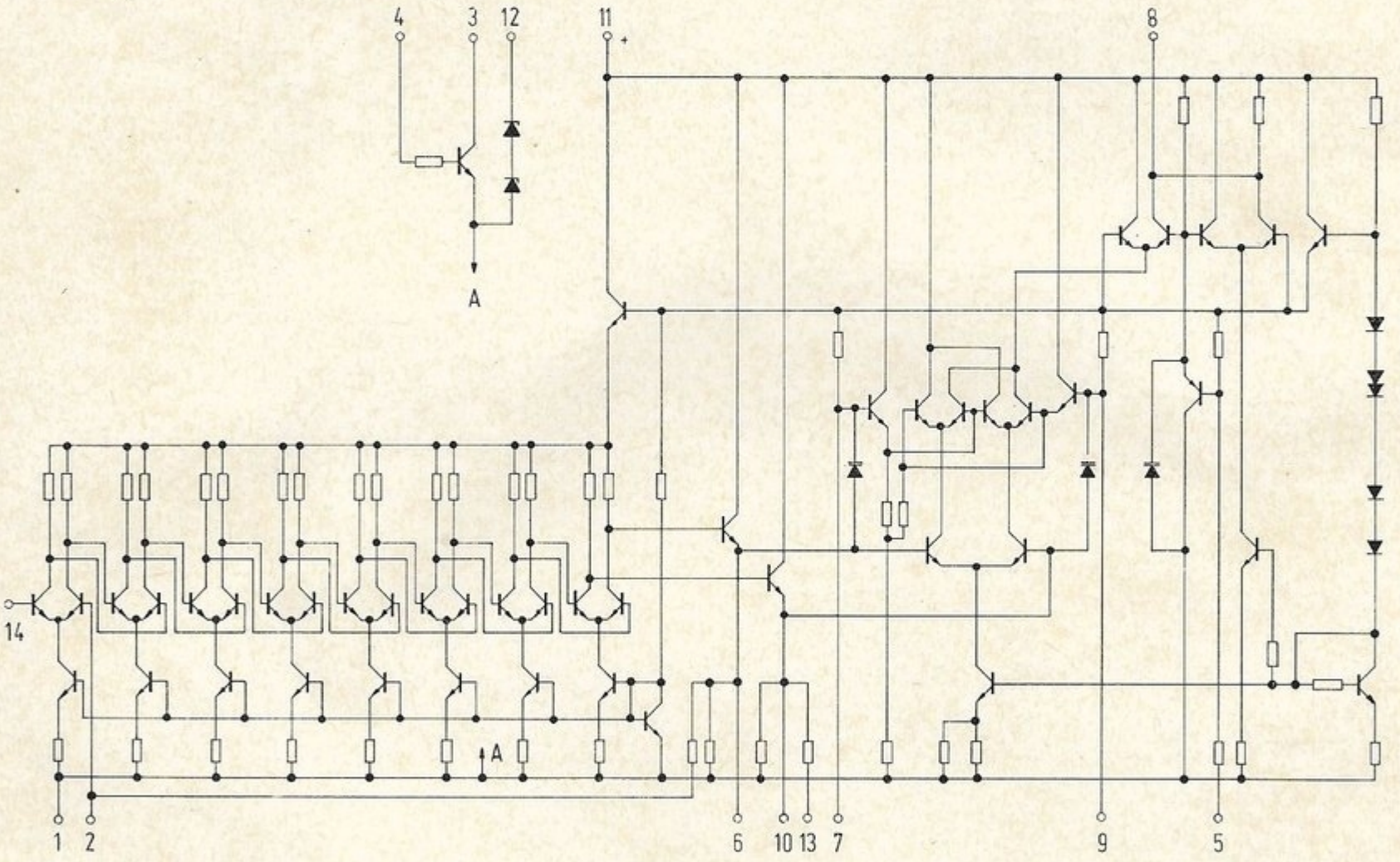


Plastic dual-in-line case
20 A 14 DIN 41866 (14 pins)
Weight approx. 1.1 g

Circuit diagram: TBA 120, TBA 120 A

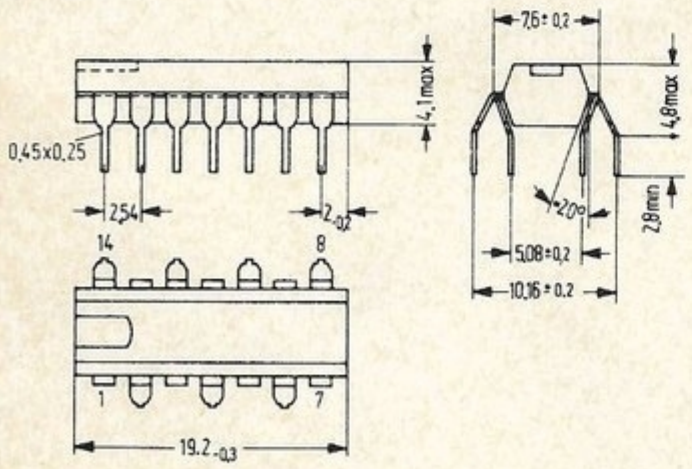


Circuit diagram: TBA 120 S, TBA 120 AS

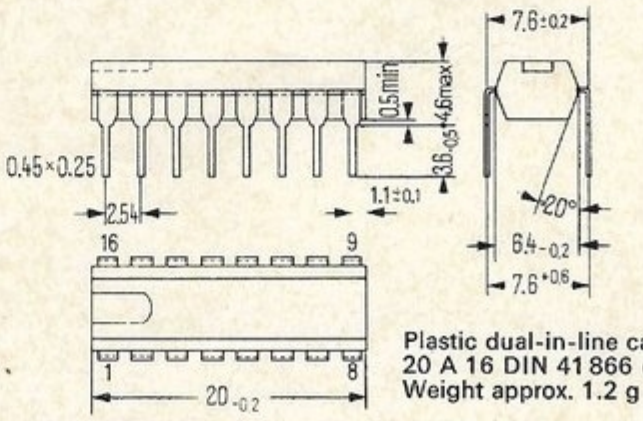


TBA 120 A, TBA 120 AS

Plastic quart-in-line case
sim. to 20 A 14 DIN 41 866 14 pins (QIL)
Weight approx. 1.1 g



TAB 440 C



Plastic dual-in-line case
20 A 16 DIN 41 866 (14 pins)
Weight approx. 1.2 g

10. Various integrated Elements

Elements available upon request

Type	Application	Package
TAA 630 S	Synchronous demodulator for PAL TV-sets	DIL 16
TAA 500 N	Luminance combination (−true value)	DIL 16
TAA 500 P	for color TV sets (+true value)	DIL 16
TBA 510	Chromaticity combination for PAL color TV sets	DIL 16
TBA 520	Synchronous demodulator for PAL color TV sets	DIL 16
TBA 530	RGB circuit for PAL color TV sets	DIL 16
TBA 540	Reference circuit for PAL color TV sets	DIL 16
TBA 560 A	Luminance and chromaticity combination for PAL color TV sets	DIL 16
TBA 970	Video amplifier circuit	DIL 16

1. TTL Series (Transistor-Transistor-Logic)

General information on the TTL-FL 100-7400 Series

Static Data

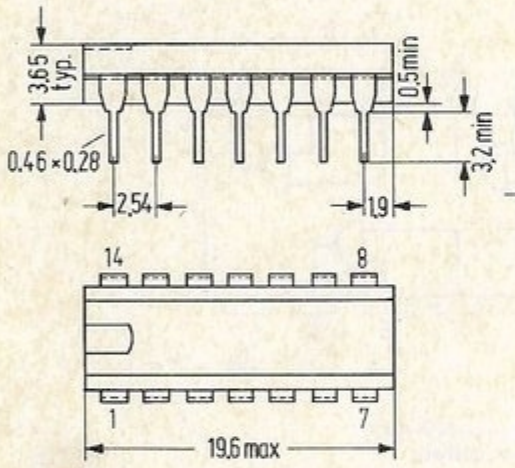
Maximum ratings are absolute values which, if exceeded, can destroy the IC. Typical characteristics are statistically determined average values supplemented by a guaranteed spread (worst case). These values apply at a supply voltage V_S = 5 V and an ambient temperature T_{amb} = 25 °C, unless otherwise stated.

The following maximum ratings apply to all types:		min	max	unit
Supply voltage	V_s	0	7	V
Input voltage	V_{in}	0	5.5	V
Operating temperature FL 101 (range 1)	T_{amb}	0	70	°C
Operating temperature FL 105 (range 5)	T_{amb}	−25	85	°C
Storage temperature	T_s	−65	150	°C
Thermal resistance (system – ambient air)	R_{thSamb}		150	K/W

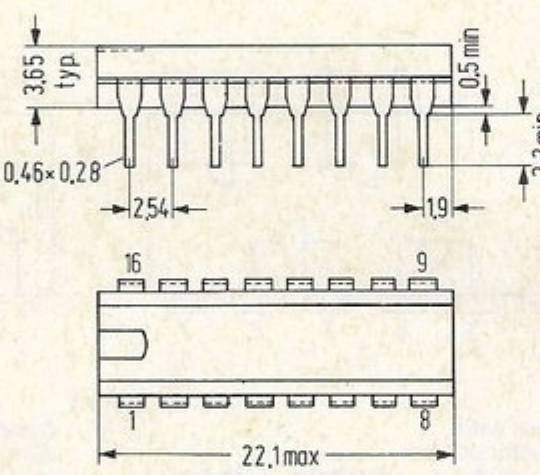
Dynamic Data

The switching times of the individual devices determine the maximum operating speed. Capacitive loading of the output and long lead lengths increase the delay and thereby reduce the speed. Measurement of the propagation delay times t_{pd} is referred to the threshold voltage V_{th} = 1.5 V, and is measured between the input and output. The rise time t_{TLH} and the fall time t_{THL} of the pulse is determined between the 10% and the 90% points.

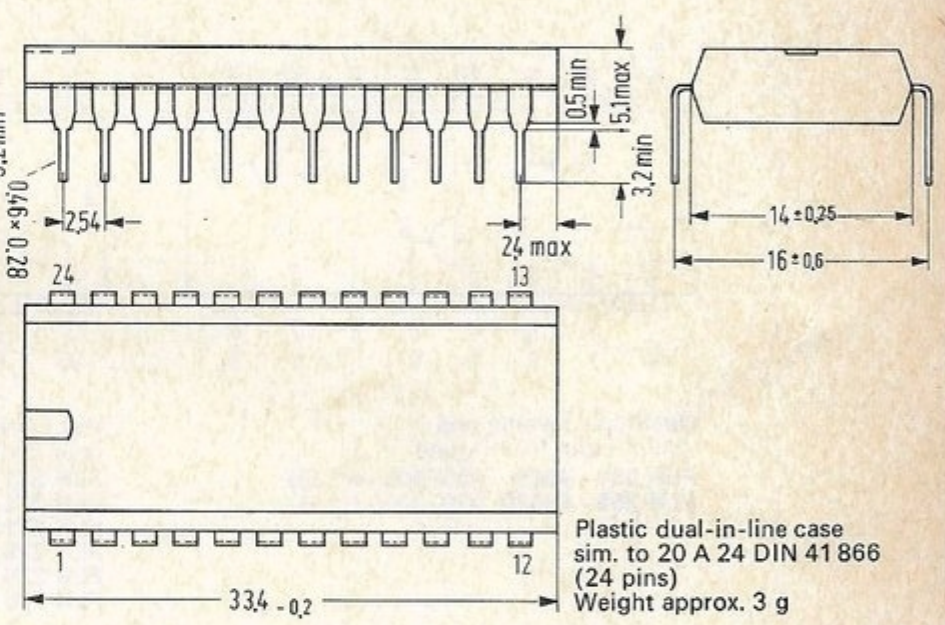
Outline drawings of the TTL series



Plastic dual-in-line case
sim. to 20 A 14 DIN 41 866 (14 pins)
Weight approx. 1.1 g



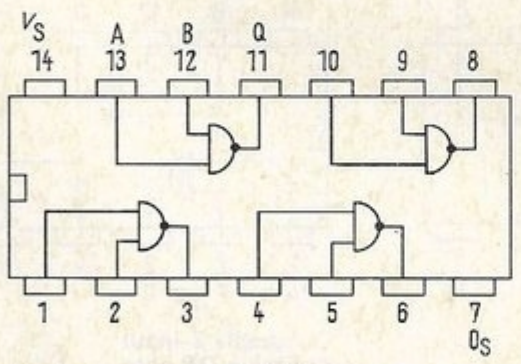
Plastic dual-in-line case
sim. to 20 A 16 DIN 41 866 (16 pins)
Weight approx. 1.2 g



Plastic dual-in-line case
sim. to 20 A 24 DIN 41 866
(24 pins)
Weight approx. 3 g

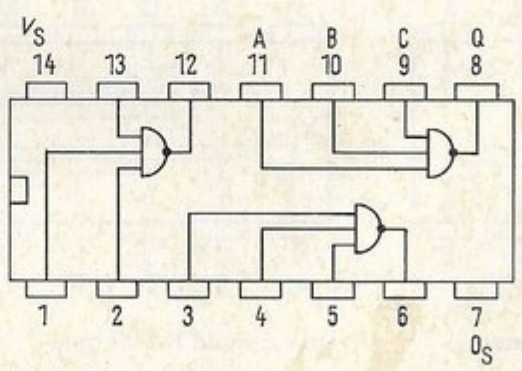
Pin configurations from top.

A. Gates



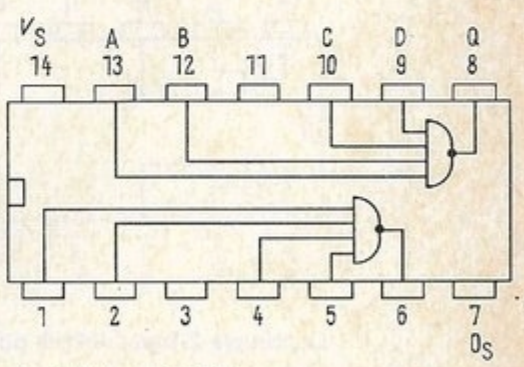
Quadruple 2-input NAND gate

FLH 101 - 7400 (Q67000 - H1)
FLH 105 - 8400 (Q67000 - H155)



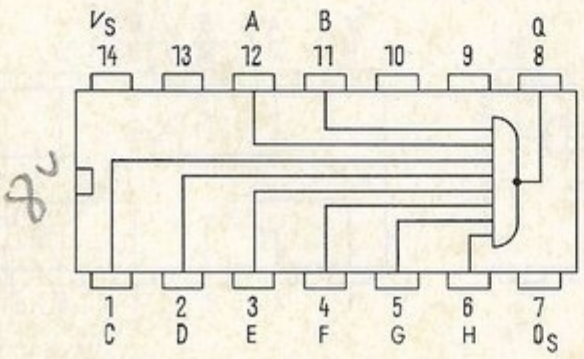
Triple 3-input NAND gate

FLH 111 - 7410 (Q67000 - H2)
FLH 115 - 8410 (Q67000 - H156)



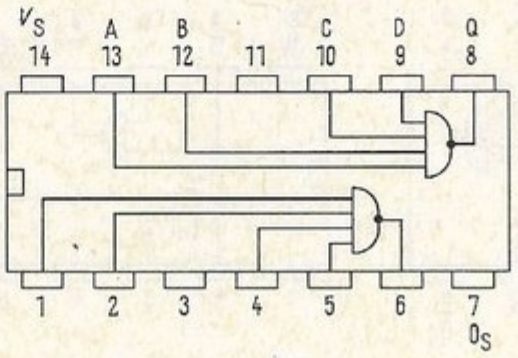
Dual 4-input NAND gate

FLH 121 - 7420 (Q67000 - H3)
FLH 125 - 8420 (Q67000 - H157)



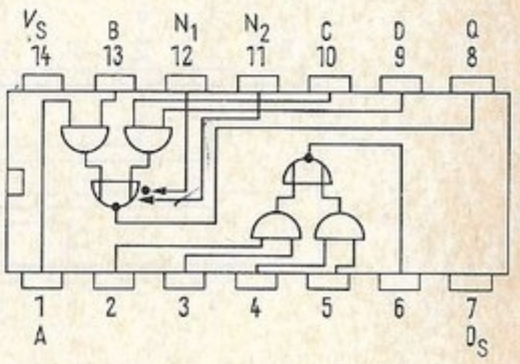
8-input NAND gate

FLH 131 - 7430 (Q67000 - H4)
FLH 135 - 8430 (Q67000 - H152)



Dual 4-input NAND power gate

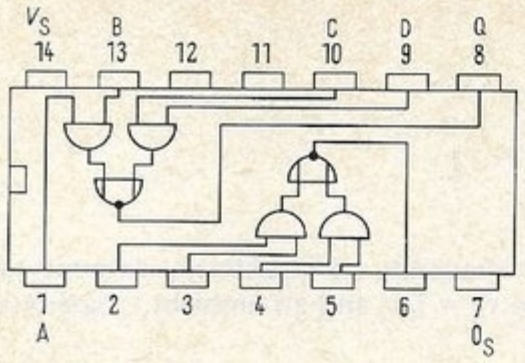
FLH 141 - 7440 (Q67000 - H5)
FLH 145 - 8440 (Q67000 - H158)



Expandable dual
2×2-input AND-OR-INVERT gate

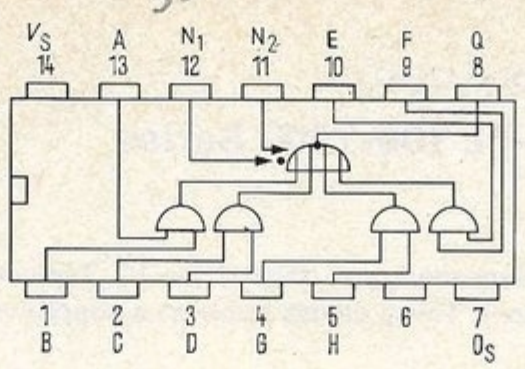
FLH 151 - 7450 (Q67000 - H6)
FLH 155 - 8450 (Q67000 - H159)

A. Gates



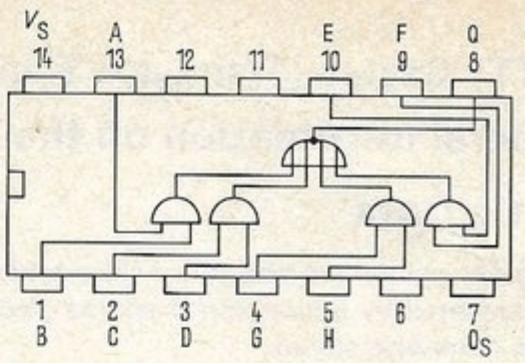
Dual 2×2-input
AND-OR-INVERT gate

FLH 161 - 7451 (Q67000 - H7)
FLH 165 - 8451 (Q67000 - H160)



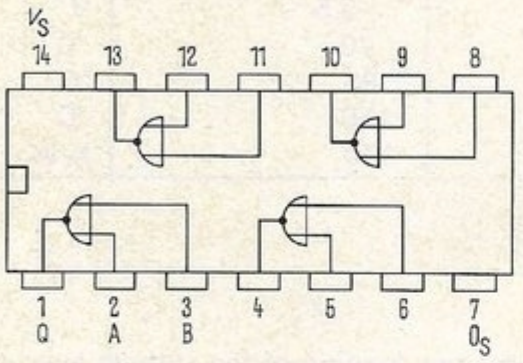
Expandable 4×2-input
AND-OR-INVERT gate

FLH 171 - 7453 (Q67000 - H8)
FLH 175 - 8453 (Q67000 - H161)



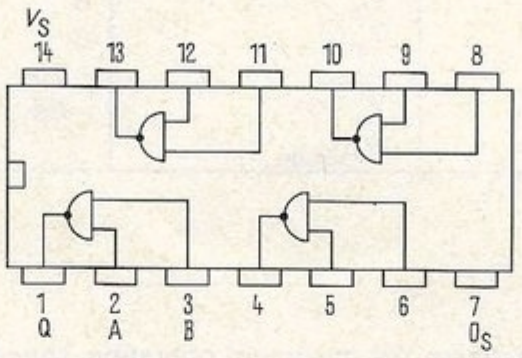
4×2-input AND-OR-INVERT gate

FLH 181 - 7454 (Q67000 - H9)
FLH 185 - 8454 (Q67000 - H162)



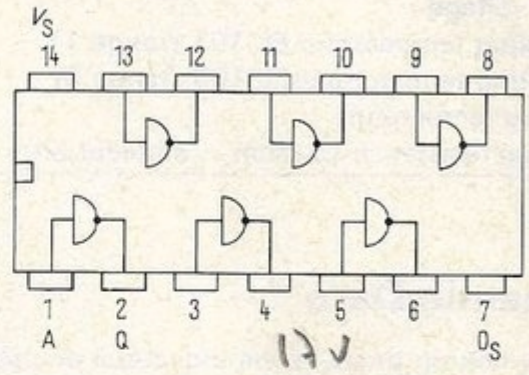
Quadruple 2-input NOR gate

FLH 191 - 7402 (Q67000 - H10)
FLH 191 S - 7402 S1 (Q67000 - H428)
FLH 195 - 8402 (Q67000 - H163)
FLH 195 S - 8402 S1 (Q67000 - H435)



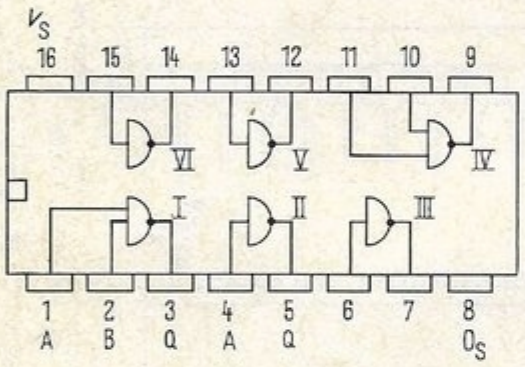
Quadruple 2-input NOR gate
with open collector output

FLH 201 - 7401 (Q67000 - H11)
FLH 201 S - 7401 S1 (Q67000 - H433)
FLH 201 T - 7401 S3 (Q67000 - H409)
FLH 205 - 8401 (Q67000 - H164)
FLH 205 S - 8401 S1 (Q67000 - H450)
FLH 205 T - 8401 S3 (Q67000 - H434)



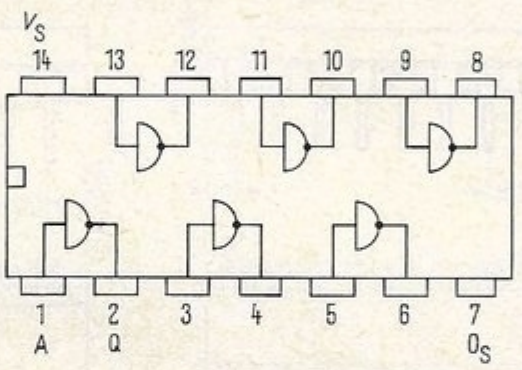
Hex inverter

FLH 211 - 7404 (067000 - H153)
FLH 215 - 8404 (067000 - H243)



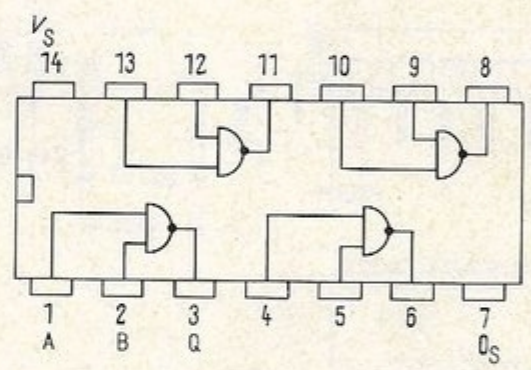
Quadruple inverter and
dual 2-input NAND gate

FLH 251 - 4929 (Q67000 - H138)
FLH 255 - 49829 (Q67000 - H247)



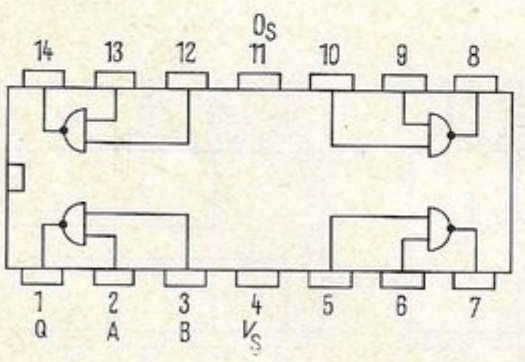
Hex inverter with
open collector output

FLH 271 - 7405 (Q67000 - H154)
FLH 271 S - 7405 S1 (Q67000 - H462)
FLH 271 T - 7405 S3 (Q67000 - H459)
FLH 275 - 8405 (Q67000 - H248)
FLH 275 S - 8405 S1 (Q67000 - H460)
FLH 275 T - 8405 S3 (Q67000 - H461)



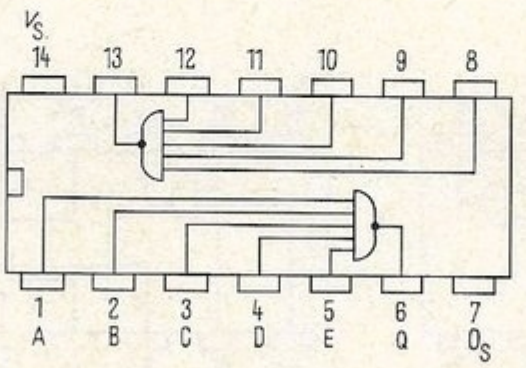
Quadruple 2-input NAND gate
with open collector output

FLH 291 - 7403 (Q67000 - H149)
FLH 291 S - 7403 S1 (Q67000 - H242)
FLH 291 T - 7403 S3 (Q67000 - H429)
FLH 291 U - 7426 (Q67000 - H506)
FLH 295 - 8403 (Q67000 - H249)
FLH 295 S - 8403 S1 (Q67000 - H437)
FLH 295 T - 8403 S3 (Q67000 - H438)
FLH 295 U - 8426 (Q67000 - H507)



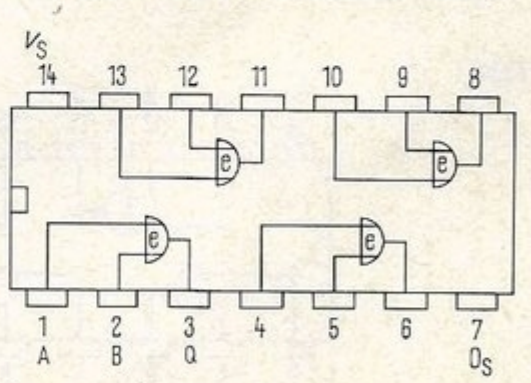
Quadruple 2-input NAND power gate

FLH 321 - 4930 (Q67000 - H139)
FLH 325 - 49830 (Q67000 - H315)



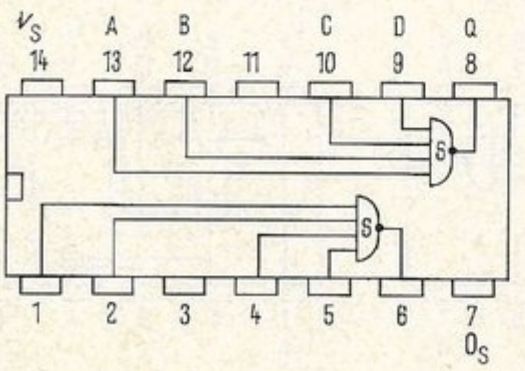
Dual 5-input NAND gate

FLH 331 - 4931 (Q67000 - H410)
FLH 335 - 49831 (Q67000 - H316)



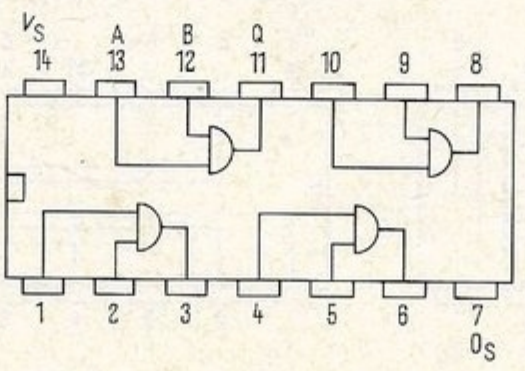
Quadruple 2-input
Exclusive-OR gate

FLH 341 - 7486 (Q67000 - H354)
FLH 345 - 8486 (Q67000 - H297)



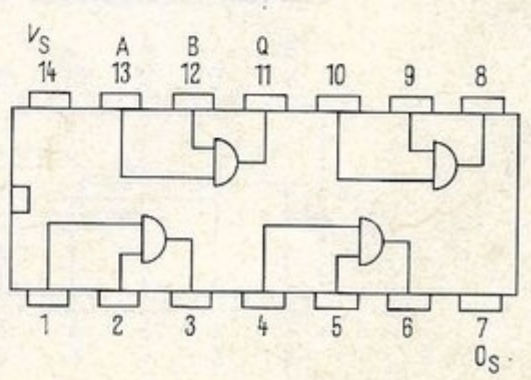
Dual 4-input NAND Schmitt trigger

FLH 351 - 7413 (Q67000 - L19)
FLH 355 - 8413 (Q67000 - H325)



Quadruple 2-input AND gate

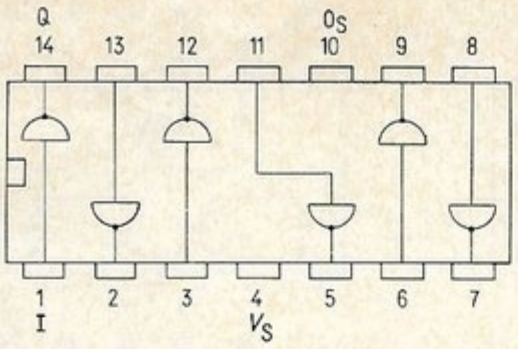
FLH 381 - 7408 (Q67000 - H398)
FLH 385 - 8408 (Q67000 - H402)



Quadruple 2-input AND gate
with open collector output

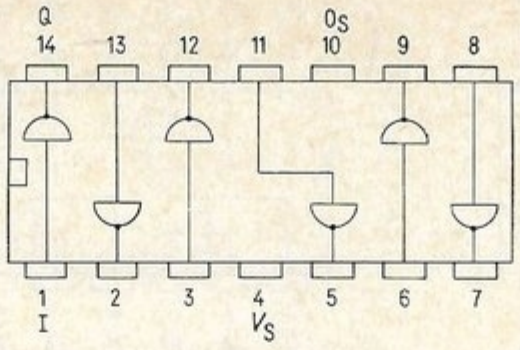
FLH 391 - 7409 (Q67000 - H399)
FLH 395 - 8409 (Q67000 - H425)
FLH 391 T - 7409 S1 (Q67000 - H720)
FLH 395 T - 8409 S1 (Q67000 - H846)

A. Gates



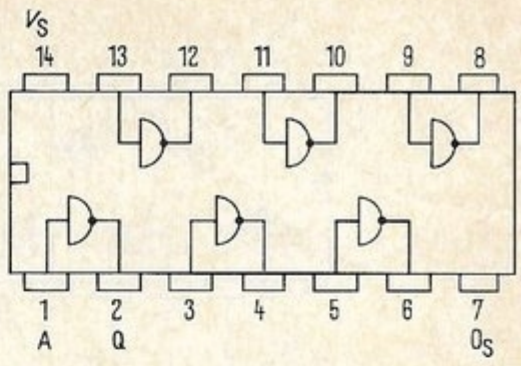
Hex inverter with expander node and open collector output

FLH 461 - 4934 (Q67000 - H141)
FLH 465 - 49834 (Q67000 - H142)



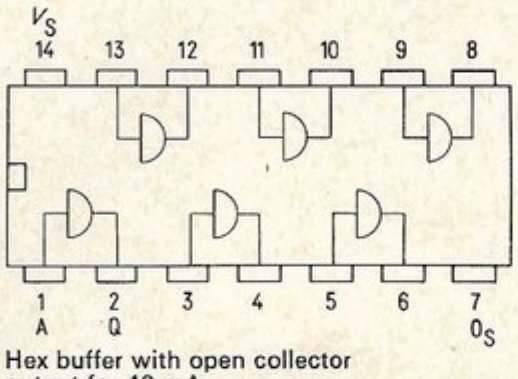
Hex inverter with expander node

FLH 471 - 4935 (Q67000 - H512)
FLH 475 - 49835 (Q67000 - H513)



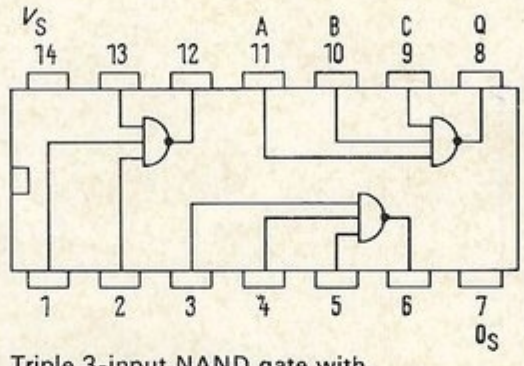
Hex buffer, inverting with open collector output for 40 mA

FLH 481 - 7406 (Q67000 - H396)
FLH 485 - 8406 (Q67000 - H400)
FLH 481 T - 7416 (Q67000 - H440)
FLH 485 T - 8416 (Q67000 - H443)



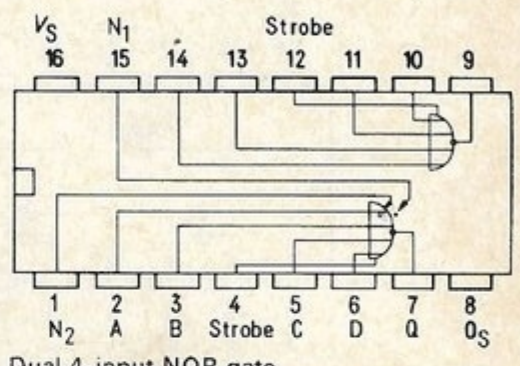
Hex buffer with open collector output for 40 mA

FLH 491 - 7407 (Q67000 - H397)
FLH 495 - 8407 (Q67000 - H401)
FLH 491 T - 7417 (Q67000 - H441)
FLH 495 T - 8417 (Q67000 - H444)



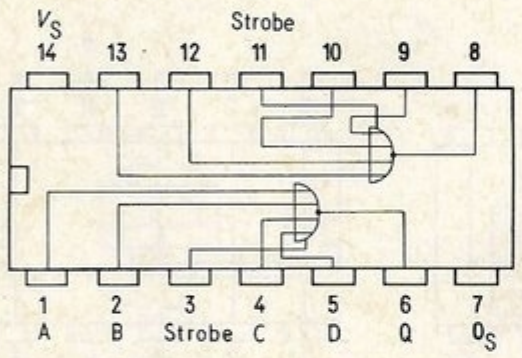
Triple 3-input NAND gate with open collector output

FLH 501 - 7412 (Q67000 - H526)
FLH 505 - 8412 (Q67000 - H527)



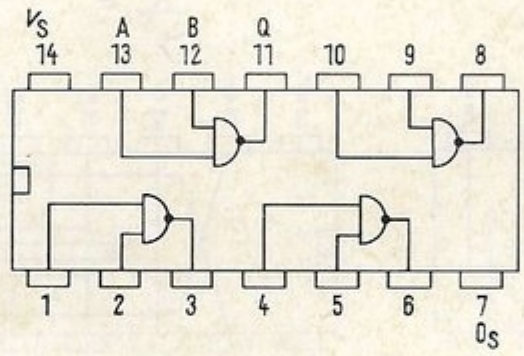
Dual 4-input NOR gate with strobe and expander node

FLH 511 - 7423 (Q67000 - H497)
FLH 515 - 8423 (Q67000 - H518)



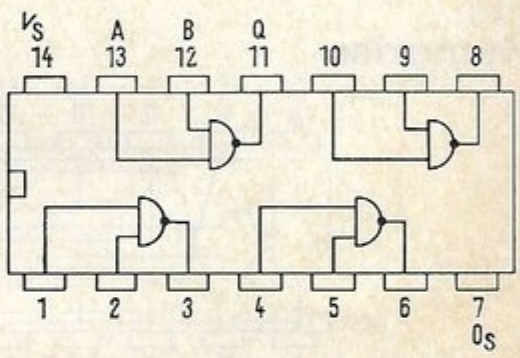
Dual 4-input NOR gate with strobe

FLH 521 - 7425 (Q67000 - H489)
FLH 525 - 8425 (Q67000 - H519)



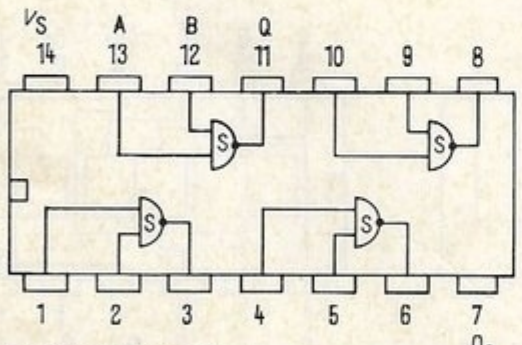
Quadruple 2-input NAND power gate

FLH 531 - 7437 (Q67000 - H416)
FLH 535 - 8437 (Q67000 - H520)



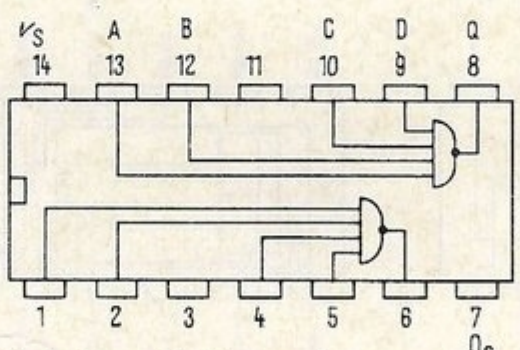
Quadruple 2-input NAND power gate with open collector output

FLH 541 - 7438 (Q67000 - H493)
FLH 545 - 8438 (Q67000 - H521)



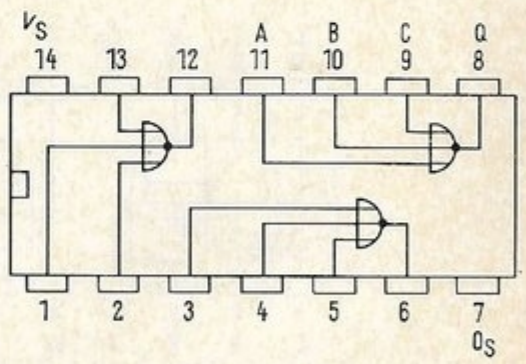
Quadruple 2-input NAND Schmitt trigger

FLH 601 - 74132 (Q67000 - H618)
FLH 605 - 84132 (Q67000 - H624)



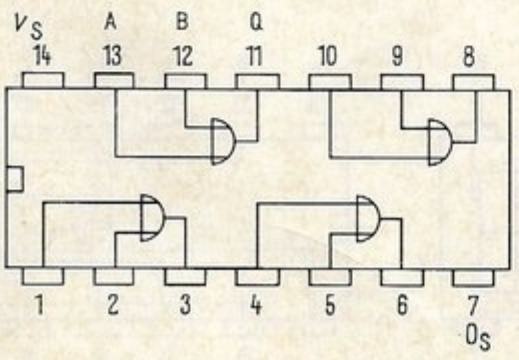
Dual 4-input NAND gate with open collector output

FLH 611 - 7422 (Q67000 - H625)
FLH 615 - 8422 (Q67000 - H626)



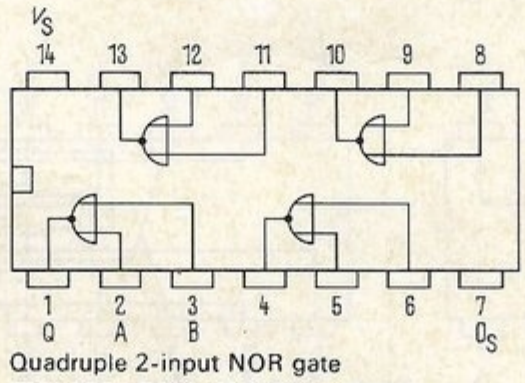
Triple 3-input NOR gate

FLH 621 - 7427 (Q67000 - H586)
FLH 625 - 8427 (Q67000 - H589)



Quadruple 2-input OR gate

FLH 631 - 7432 (Q67000 - H491)
FLH 635 - 8432 (Q67000 - H593)

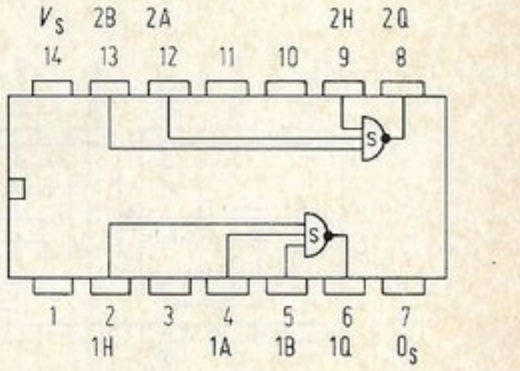


Quadruple 2-input NOR gate

FLH 661 - 7428 (Q67000 - H490)
FLH 665 - 8428 (Q67000 - H590)

Quadruple 2-input NOR gate with open collector output

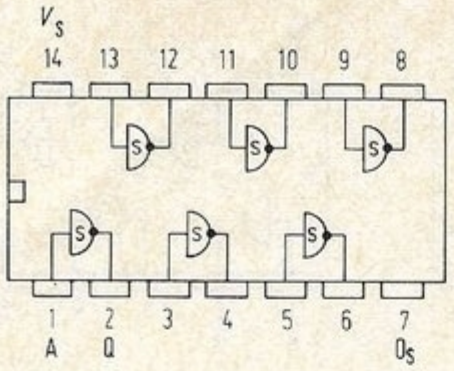
7433 (Q67000-H492)
8433 (Q67000-H591)
74128 (Q67000-H723)
84128 (Q67000-H853)



Dual NAND Schmitt trigger with high input impedance

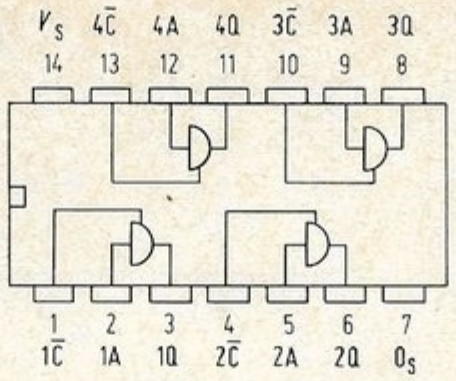
FLH 731 - 49713 (Q67000 - H678)
FLH 735 - 49813 (Q67000 - H843)
FLH 731 T - 49713 S1 (Q67000 - H726)
FLH 735 T - 49813 S1 (Q67000 - H844)

A. Gates



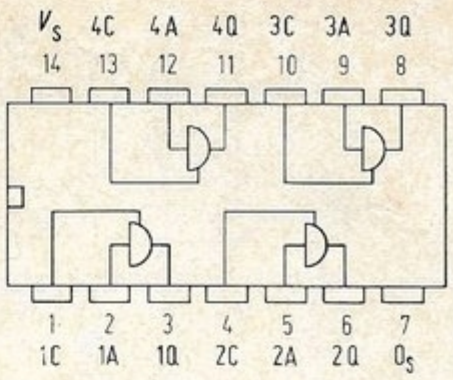
Hex NAND Schmitt trigger

7414 (Q67000-L109)
8414 (Q67000 - L120)



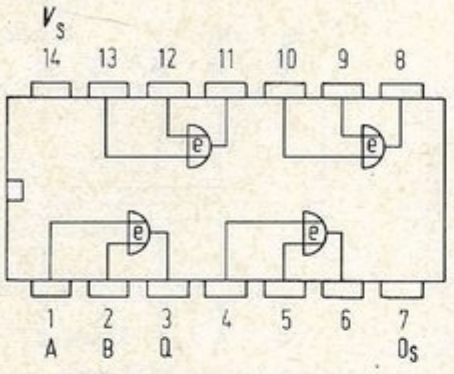
Quadruple AND gate with tri-state outputs

74125 (Q67000 - H721)
84125 (Q67000 - H851)



Quadruple AND gate with tri-state outputs

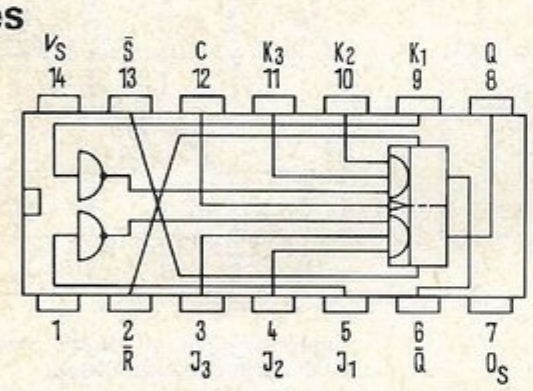
74126 (Q67000 - H722)
84126 (Q67000 - H852)



Quadruple 2-input exclusive-OR gate with open collector output

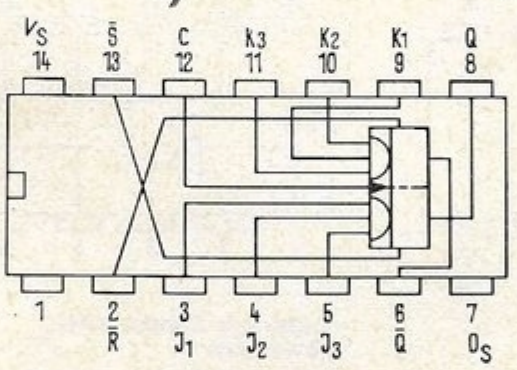
74136 (Q67000 - J512)
84136 (Q67000 - J516)

B. Flipflops and Memories



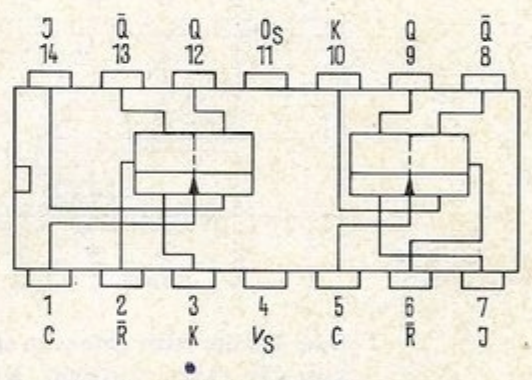
3+3-input JK-flipflop

FLJ 101 - 7470 (Q67000 - J1)
FLJ 105 - 8470 (Q67000 - J80)



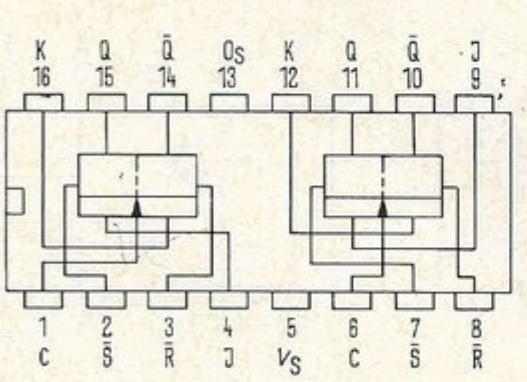
3+3-input JK-master-slave-flipflop

FLJ 111 - 7472 (Q67000 - J2)
FLJ 115 - 8472 (Q67000 - J81)



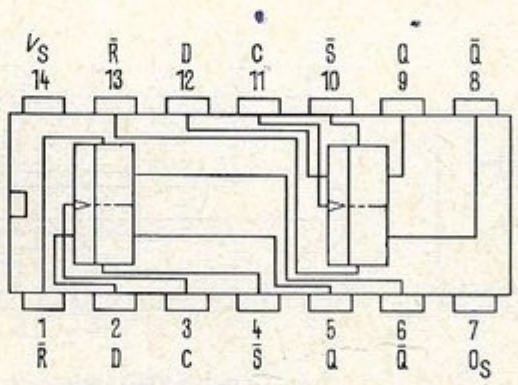
Dual JK-master-slave-flipflop with reset

FLJ 121 - 7473 (Q67000 - J3)
FLJ 125 - 8473 (Q67000 - J79)



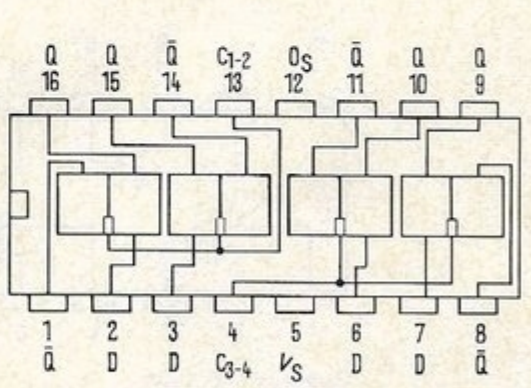
Dual JK-master-slave-flipflop with set and reset

FLJ 131 - 7476 (Q67000 - J4)
FLJ 135 - 8476 (Q67000 - J82)



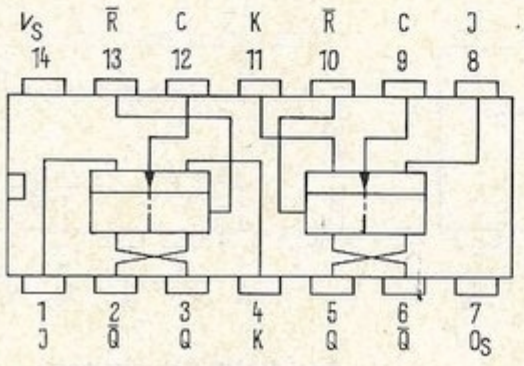
Dual D-flipflop

FLJ 141 - 7474 (Q67000 - J9)
FLJ 145 - 8474 (Q67000 - J83)



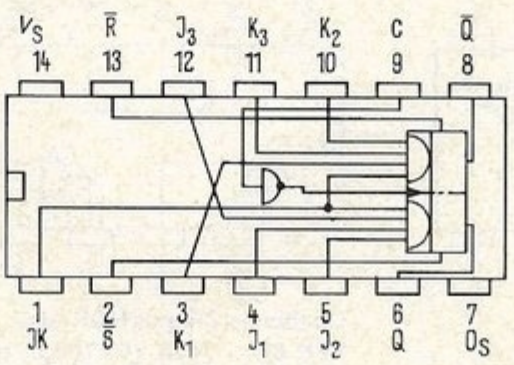
Quadruple D-flipflop

FLJ 151 - 7475 (Q67000 - J5)
FLJ 155 - 8475 (Q67000 - J84)



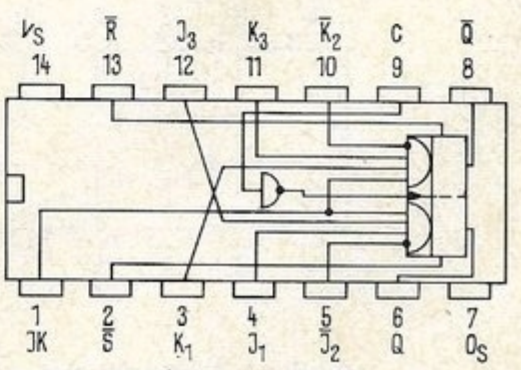
Dual JK-master-slave-flipflop with reset

FLJ 271 - 74107 (Q67000 - J165)
FLJ 275 - 84107 (Q67000 - J222)



JK-master-slave-flipflop with JK input

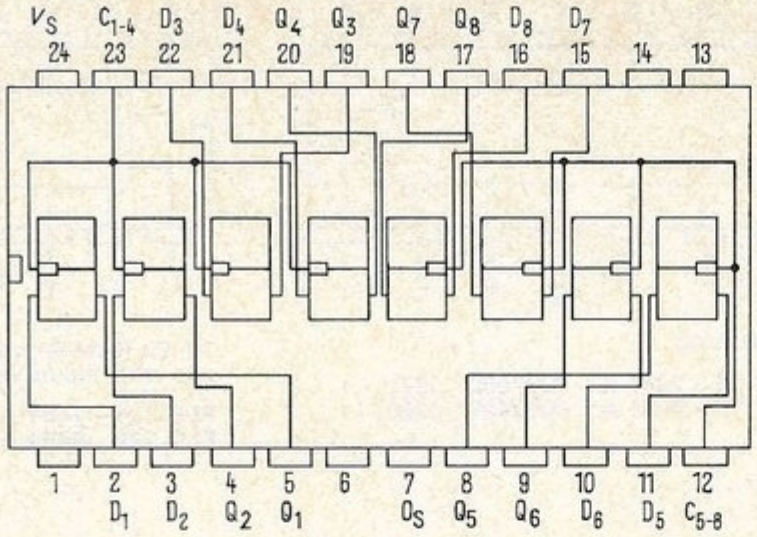
FLJ 281 - 74104 (Q67000 - J241)



JK-master-slave-flipflop with J, K, and JK-inputs

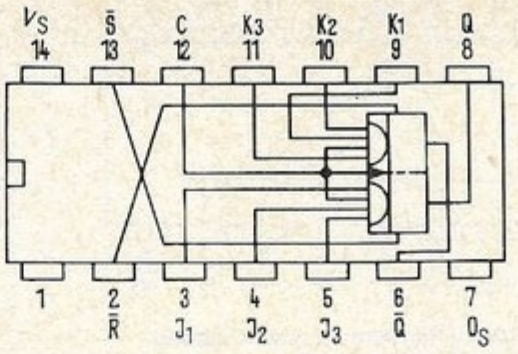
FLJ 291 - 74105 (Q67000 - J242)

B. Flipflops and Memories



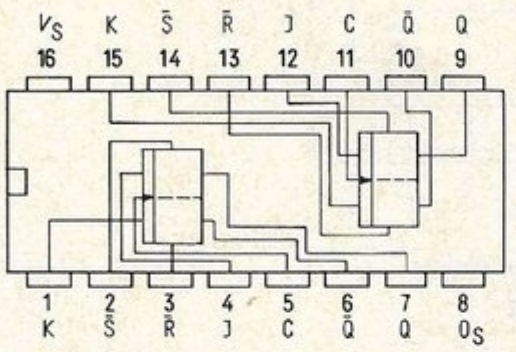
Eight D-flipflop

FLJ 301 - 74100 (Q67000 - J164)
FLJ 305 - 84100 (Q67000 - J233)



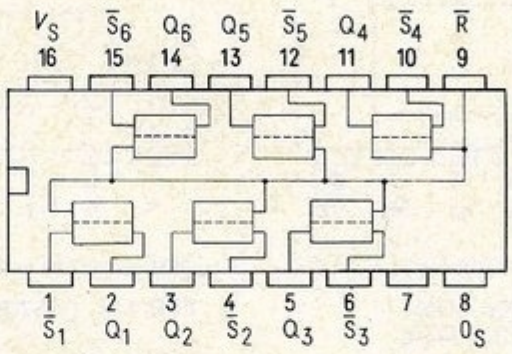
JK-master-slave-flipflop
with data lockout

FLJ 341 - 74110 (Q67000 - J224)
FLJ 345 - 84110 (Q67000 - J274)



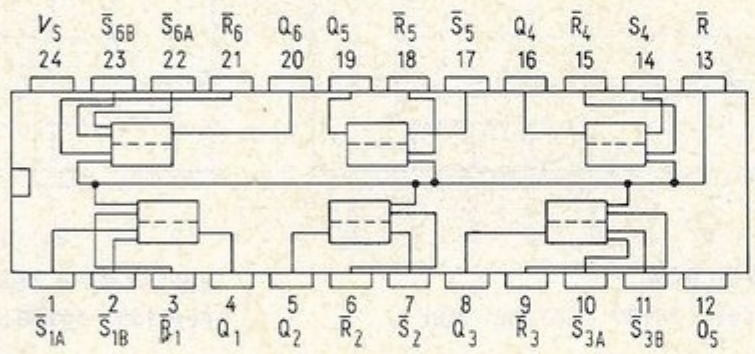
Dual JK-master-slave-flipflop
with data lockout,
set and reset

FLJ 351 - 74111 (Q76000 - J225)
FLJ 355 - 84111 (Q67000 - J289)



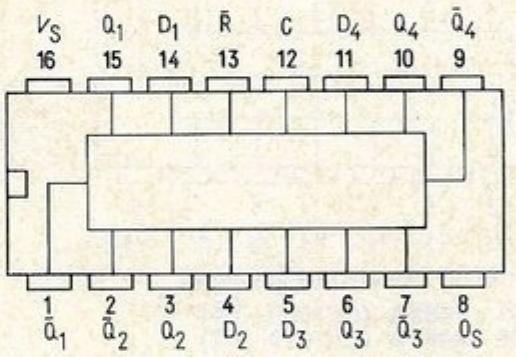
Hex RS-flipflop
with common reset

FLJ 361 - 74118 (Q67000 - J275)
FLJ 365 - 84118 (Q67000 - J290)


V_S $\bar{S}_{6B}$ $\bar{S}_{6A}$ $\bar{R}_6$ Q_6 Q_5 $\bar{R}_5$ $\bar{S}_5$ Q_4 $\bar{R}_4$ S_4 $\bar{R}$
24 23 22 21 20 19 18 17 16 15 14 13
1 2 3 4 5 6 7 8 9 10 11 12
$\bar{S}_{1A}$ $\bar{S}_{1B}$ $\bar{R}_1$ Q_1 Q_2 $\bar{R}_2$ $\bar{S}_2$ Q_3 $\bar{R}_3$ $\bar{S}_{3A}$ $\bar{S}_{3B}$ 0_S

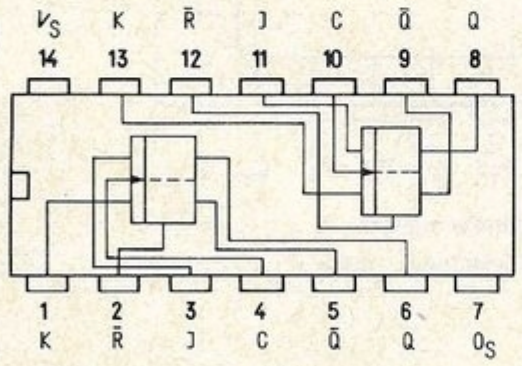
Hex RS-flipflop
with set and reset

FLJ 371 - 74119 (Q67000 - J276)
FLJ 375 - 84119 (Q67000 - J291)



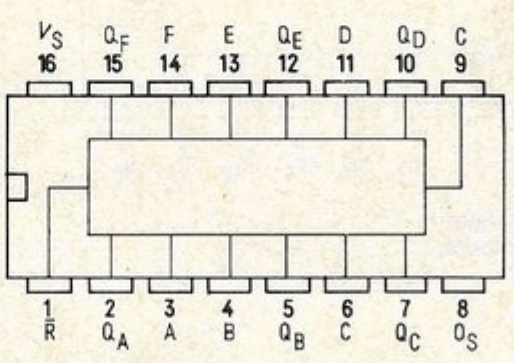
Quadruple D-flipflop
with common reset

FLJ 491 - 49702 (Q67000 - H259)
FLJ 495 - 4982 (Q67000 - J151)



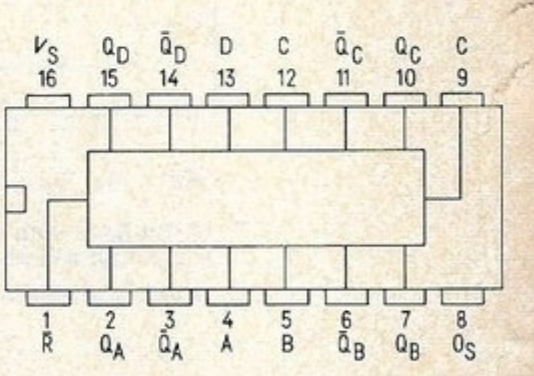
Dual JK-master-slave-flipflop
with reset

FLJ 521 - 74115 (Q67000 - J306)
FLJ 525 - 84115 (Q67000 - J376)



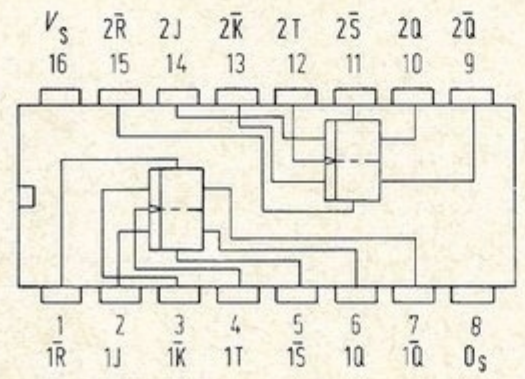
Hex D-flipflop with reset

FLJ 531 - 74174 (Q67000 - J349)
FLJ 535 - 84174 (Q67000 - J378)



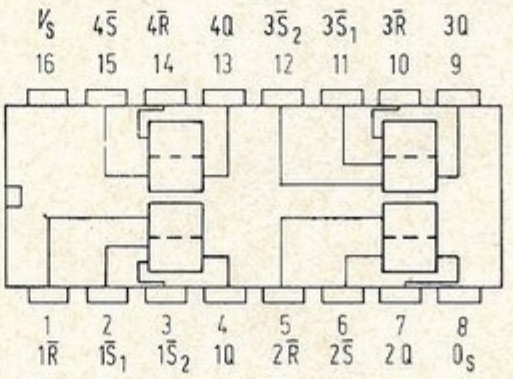
Quadruple D-flipflop with reset

FLJ 541 - 74175 (Q67000 - J379)
FLJ 545 - 84175 (Q67000 - J380)



Dual JK-flipflop
with reset and set

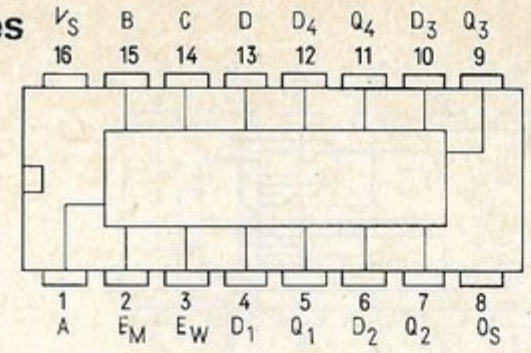
74109 (Q67000 - J431)
84109 (Q67000 - J514)



Quadruple RS-flipflop
with separate reset

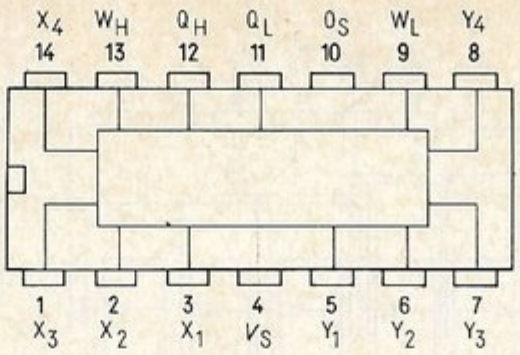
74279 (Q67000 - J580)

B. Flipflops and Memories



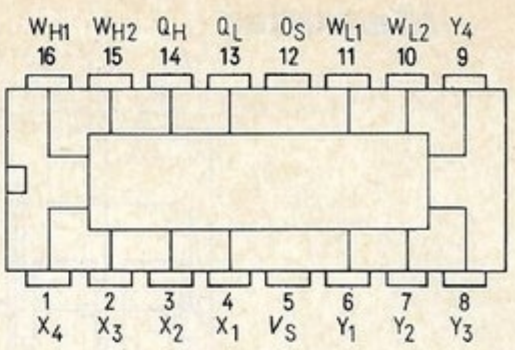
64-Bit RAM (Random Access Memory) with open collector outputs

FLQ 101 - 7489 (Q67000 - Q11)
FLQ 105 - 8489 (Q67000 - Q12)



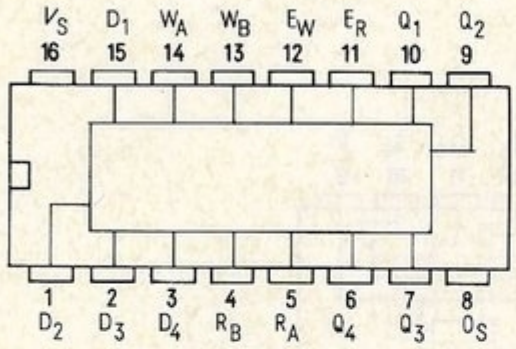
16-Bit RAM

FLQ 111 - 7481 A (Q67000 - J27)
FLQ 115 - 8481 A (Q67000 - J250)



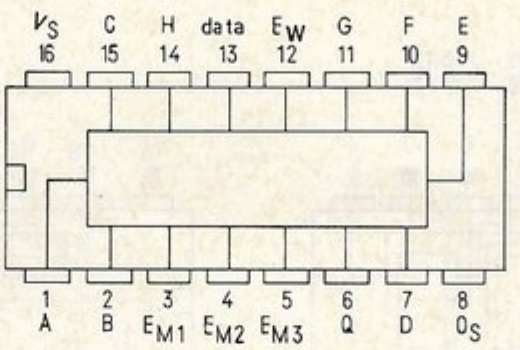
16-Bit RAM with 2 read and write inputs each

FLQ 121 - 7484 A (Q67000 - J163)
FLQ 125 - 8484 A (Q67000 - Q5)



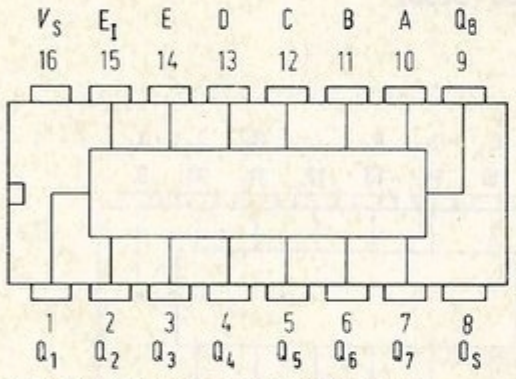
16-Bit RAM, 4 words of 4 bits

FLQ 131 - 74170 (Q67000 - Q6)
FLQ 135 - 84170 (Q67000 - Q25)



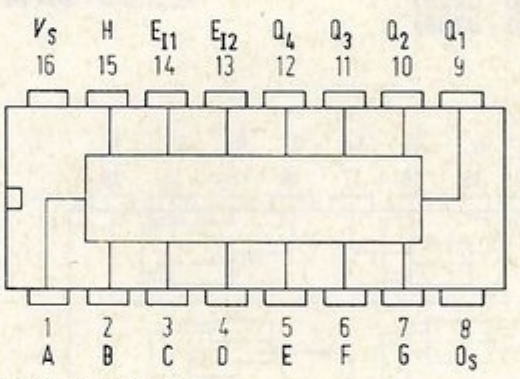
256-Bit RAM with tri-state output

FLQ 141 (Q67000 - Q20)



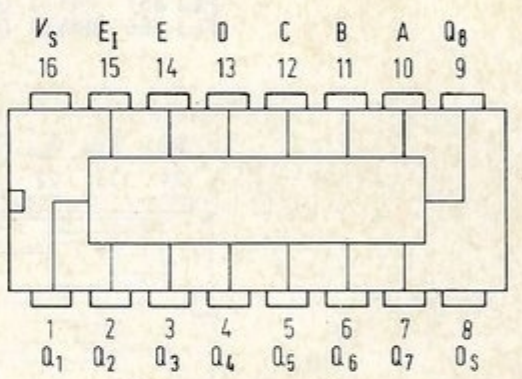
256-Bit ROM (Read-Only-Memory)

FLR 101 - 7488 A (Q67000 - R1)
FLR 105 - 8488 A (Q67000 - R2)



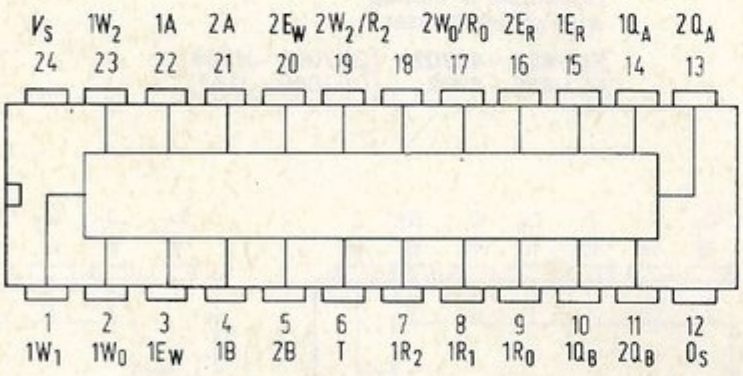
1024-Bit ROM

FLR 111 - 74187 (Q67000 - R5)



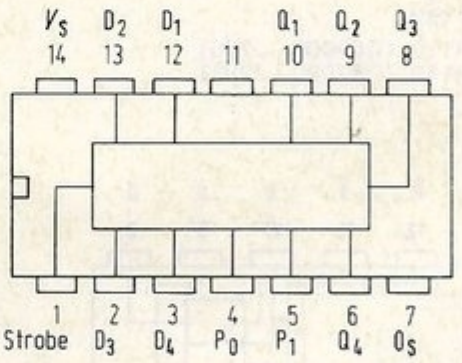
256-Bit ROM, programmable

FLR 121 - 74188 (Q67000 - R13)



16-Bit RAM with multiple input and output and tri-state outputs

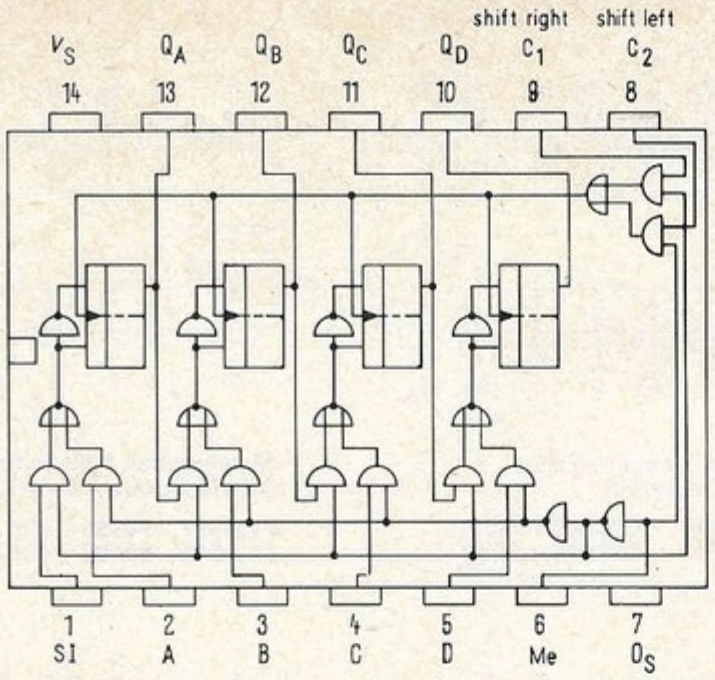
74172 (Q67000 - J432)



4-Bit priority register

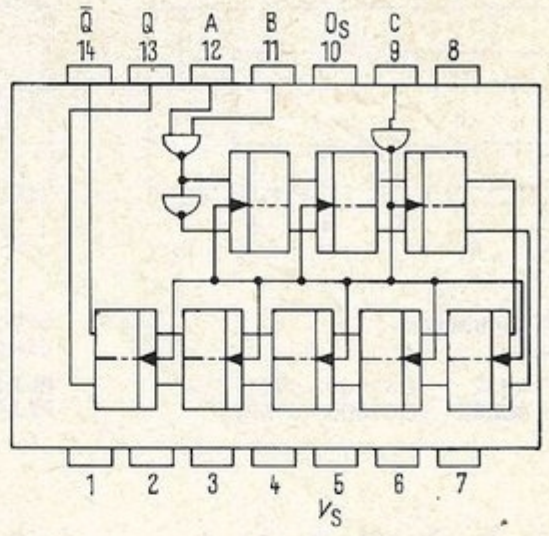
74278 (Q67000 - J576)

C. Shift-registers



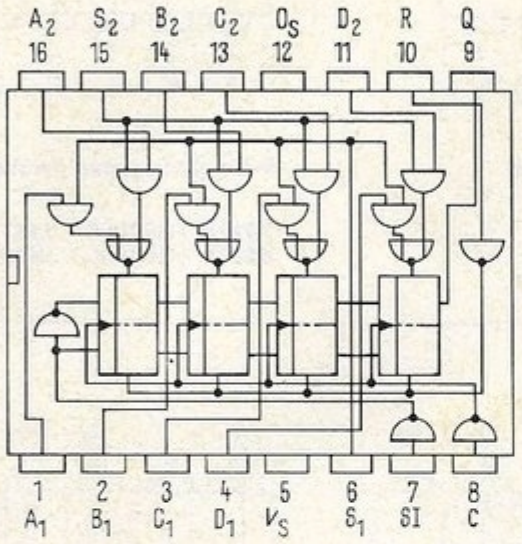
4-Bit shiftregister, reversible,
parallel in/out

FLJ 191 - 7495A (Q67000 - Q427)
FLJ 195 - 8495A (Q67000 - Q513)



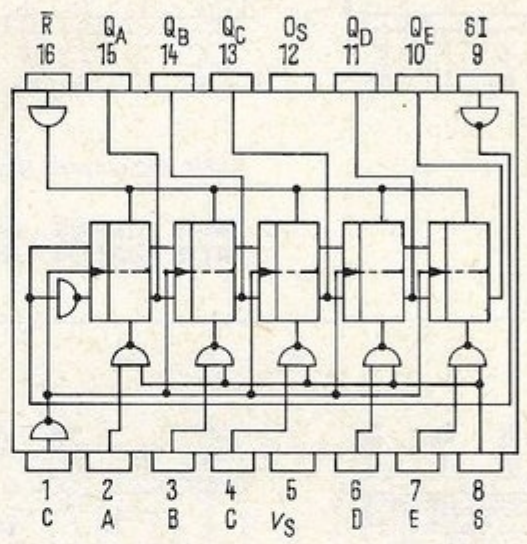
8-Bit shiftregister, serial in/out

FLJ 221 - 7491 A (Q67000 - J32)
FLJ 225 - 8491 A (Q67000 - J252)



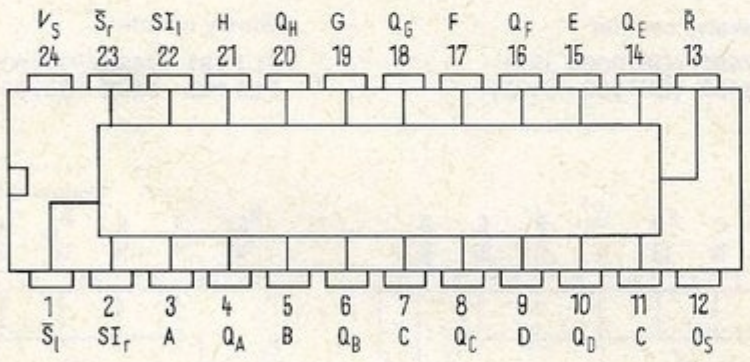
4-Bit shiftregister parallel in, serial out

FLJ 231 - 7494 (Q67000 - J35)
FLJ 235 - 8494 (Q67000 - J200)



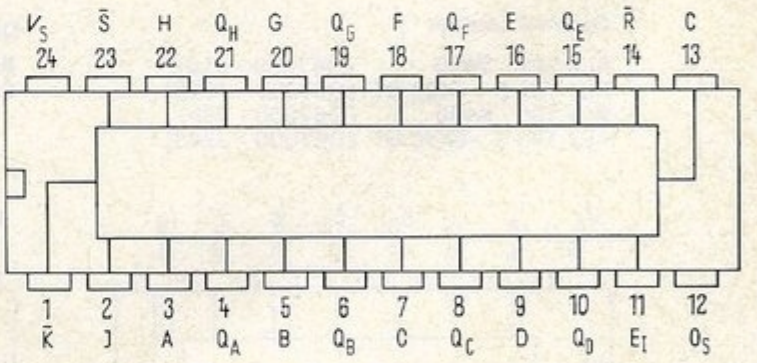
5-Bit shiftregister,
parallel in; parallel out

FLJ 261 - 7496 (Q67000 - J37)
FLJ 265 - 8496 (Q67000 - J203)



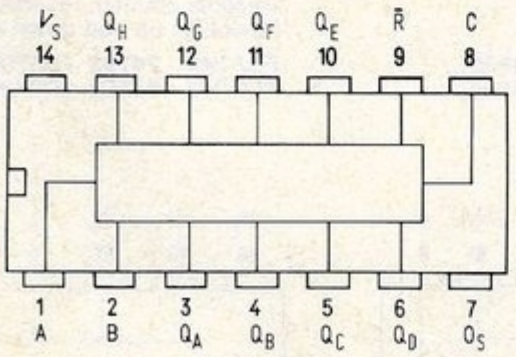
Synchronous bidirectional 8-bit
shiftregister, parallel in/out

FLJ 311 - 74198 (Q67000 - J244)
FLJ 315 - 84198 (Q67000 - J235)



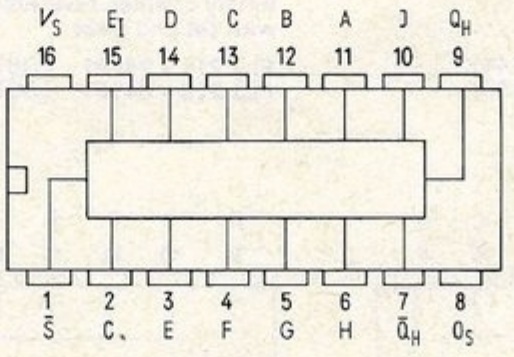
Synchronous 8-bit shiftregister
with J-K-inputs, parallel in/out

FLJ 321 - 74199 (Q67000 - J245)
FLJ 325 - 84199 (Q67000 - J237)



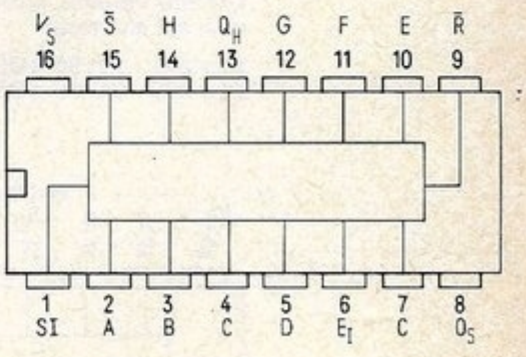
8-Bit shiftregister, parallel out

FLJ 441 - 74164 (Q67000 - J280)
FLJ 445 - 84164 (Q67000 - J298)



8-Bit shiftregister, parallel in

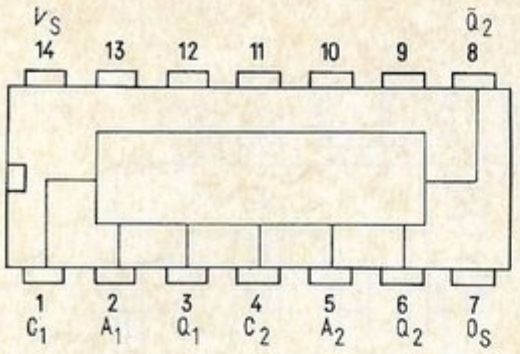
FLJ 451 - 74165 (Q67000 - J281)
FLJ 455 - 84165 (Q67000 - J299)



Synchronous 8-bit shiftregister,
parallel in, serial out

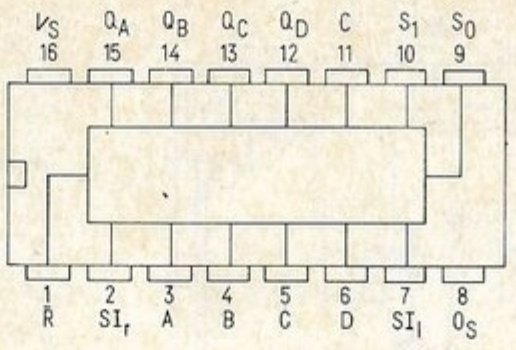
FLJ 461 - 74166 (Q67000 - J282)
FLJ 465 - 84166 (Q67000 - J300)

C. Shift-registers



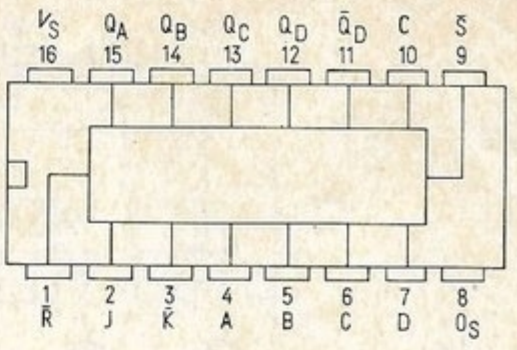
Dual 8-bit shiftregister,
serial in/out

FLJ 481 - 4932 (Q67000 - J72)
FLJ 485 - 49832 (Q67000 - J152)



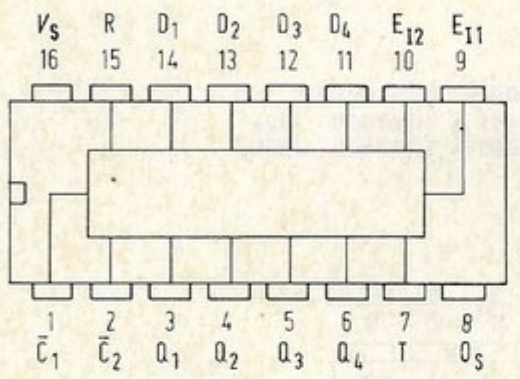
Synchronous 4-bit shiftregister,
parallel in/out, right/left

FLJ 551 - 74194 (Q67000 - J350)
FLJ 555 - 84194 (Q67000 - J382)



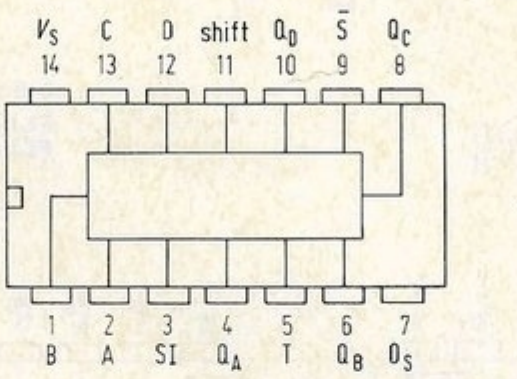
Synchronous 4-bit shiftregister,
parallel in/out, with J-K inputs

FLJ 561 - 74195 (Q67000 - J286)
FLJ 565 - 84195 (Q67000 - J384)



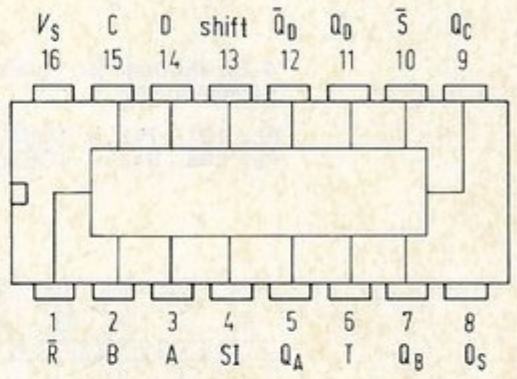
4-Bit shiftregister
with tri-state outputs

74173 (Q67000 - J433)
84173 (Q67000 - J518)



4-Bit shiftregister, parallel in/out

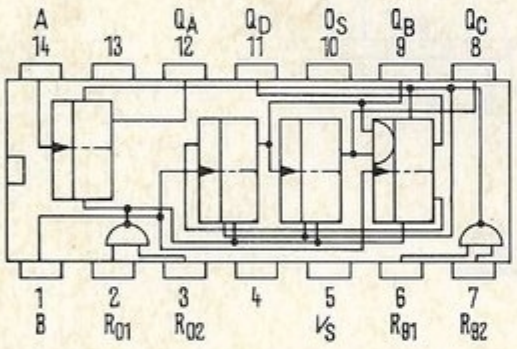
74178 (Q67000 - J436)
84178 (Q67000 - J519)



4-Bit shiftregister, parallel in/out

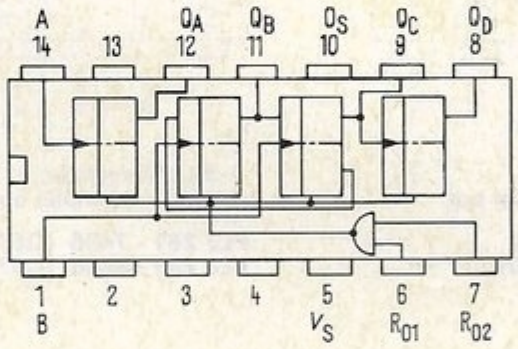
74179 (Q67000 - J437)
84179 (Q67000 - J520)

D. Counters and Frequency Dividers



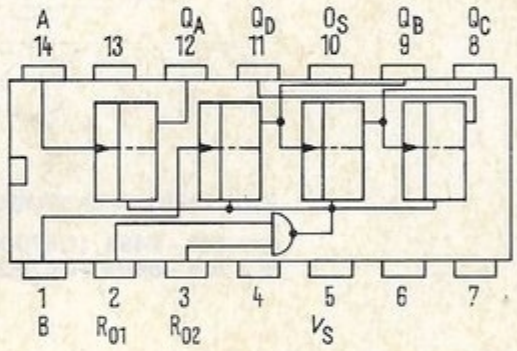
Decimal counter

FLJ 161 - 7490 (Q67000 - J10)
FLJ 161 S - 7490 S1 (Q67000 - J248)
FLJ 165 - 8490 (Q67000 - J85)
FLJ 165 S - 8490 S1 (Q67000 - J249)



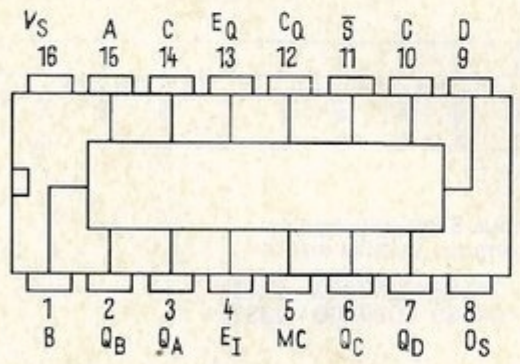
Divide-by-twelve counter

FLJ 171 - 7492 (Q67000 - J33)
FLJ 175 - 8492 (Q67000 - J122)



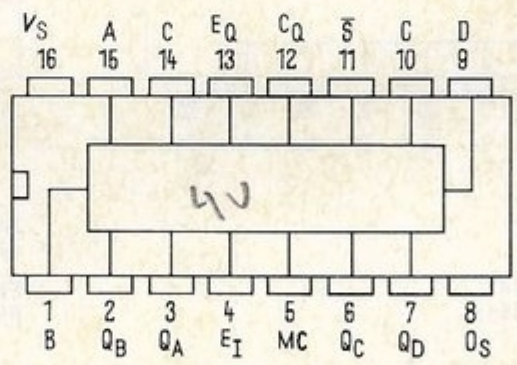
Binary counter

FLJ 181 - 7493 (Q67000 - J34)
FLJ 185 - 8493 (Q67000 - J123)



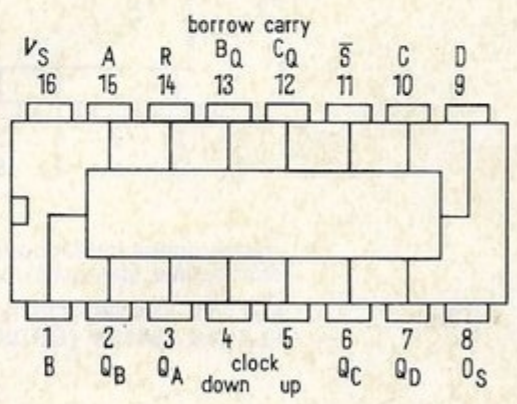
Decimal counter, reversible
with set and reset

FLJ 201 - 74190 (Q67000 - J144)
FLJ 205 - 84190 (Q67000 - J198)



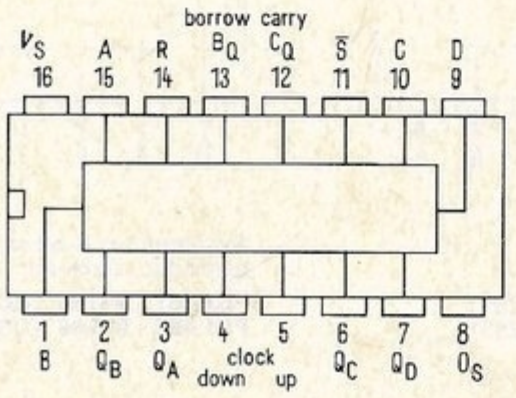
Binary counter, reversible
with set and reset

FLJ 211 - 74191 (Q67000 - J145)
FLJ 215 - 84191 (Q67000 - J199)



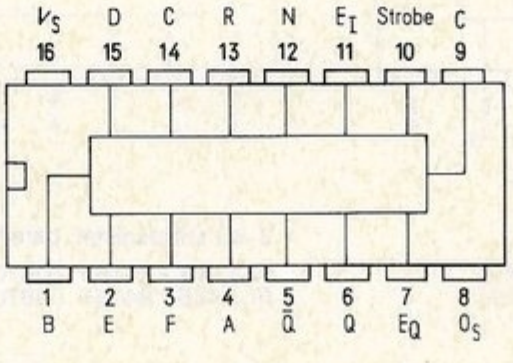
Decimal counter, reversible with clock
inputs for up and down count

FLJ 241 - 74192 (Q67000 - J174)
FLJ 245 - 84192 (Q67000 - J201)



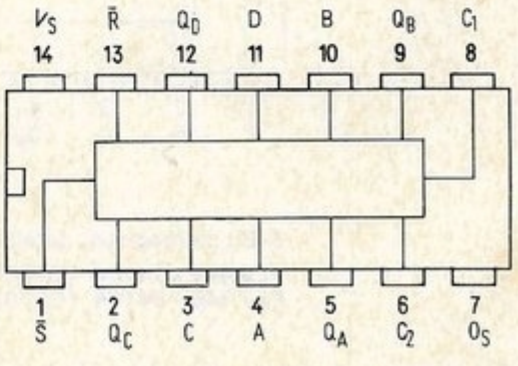
Binary counter, reversible with clock
inputs for up and down count

FLJ 251 - 74193 (Q67000 - J175)
FLJ 255 - 84193 (Q67000 - J202)



Programmable 6-bit rate multiplier

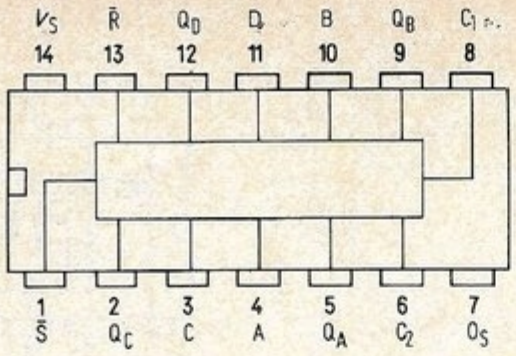
FLJ 331 - 7497 (Q67000 - J240)



Decimal counter
with set and reset for 50 MHz

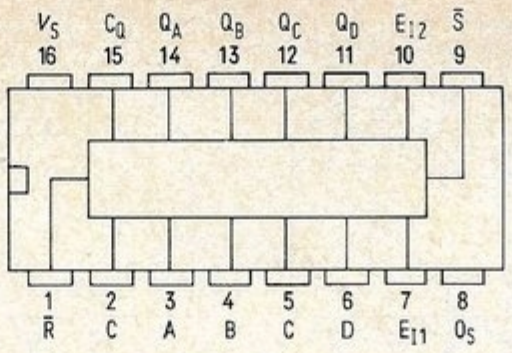
FLJ 381 - 74196 (Q67000 - J283)
FLJ 385 - 84196 (Q67000 - J292)

D. Counters and Frequency Dividers



Binary counter with set and reset for 50 MHz

FLJ 391 - 74197 (Q67000 - J284)
FLJ 395 - 84197 (Q67000 - J293)

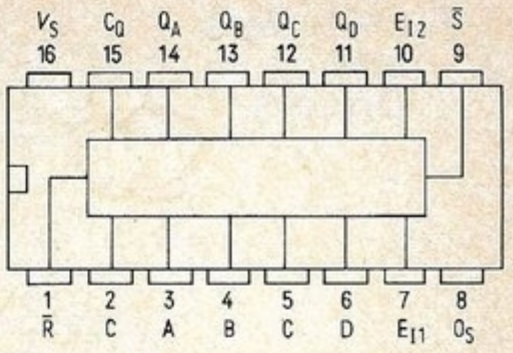


Synchronous decimal counter with synchronous set input and asynchronous reset input

FLJ 401 - 74160 (Q67000 - J277)
FLJ 405 - 84160 (Q67000 - J294)

Synchronous decimal counter with synchronous set and reset inputs

FLJ 421 - 74162 (Q67000 - J278)
FLJ 425 - 84162 (Q67000 - J296)

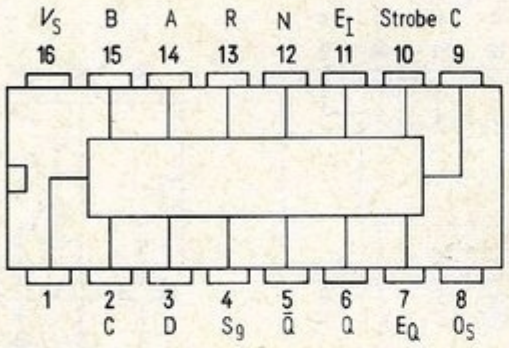


Synchronous 4-bit binary counter with synchronous set input and asynchronous reset input

FLJ 411 - 74161 (Q67000 - J273)
FLJ 415 - 84161 (Q67000 - J295)

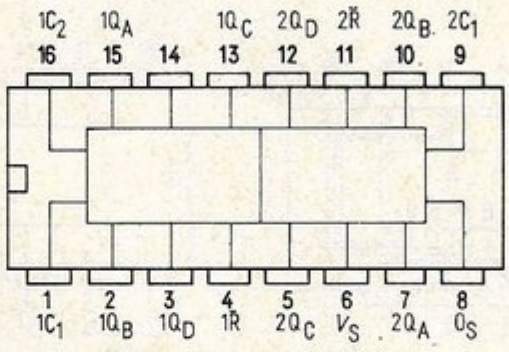
Synchronous 4-bit binary counter with synchronous set and reset inputs

FLJ 431 - 74163 (Q67000 - J279)
FLJ 435 - 84163 (Q67000 - J297)



Programmable decimal rate multiplier

FLJ 471 - 74167 (Q67000 - J308)

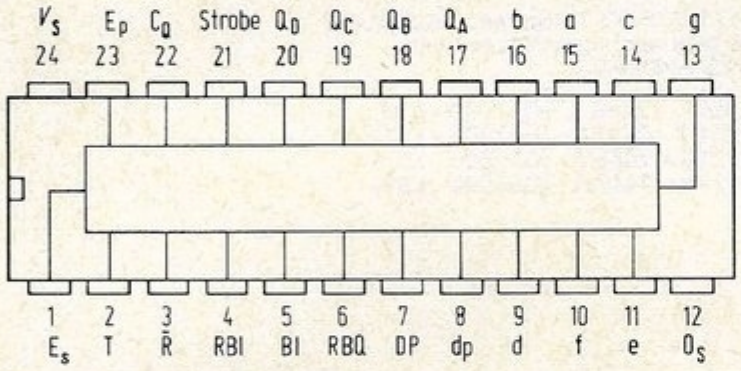


Dual binary counter for 50 MHz

FLJ 501 - 49704 (Q67000 - J371)
FLJ 505 - 49804 (Q67000 - J372)

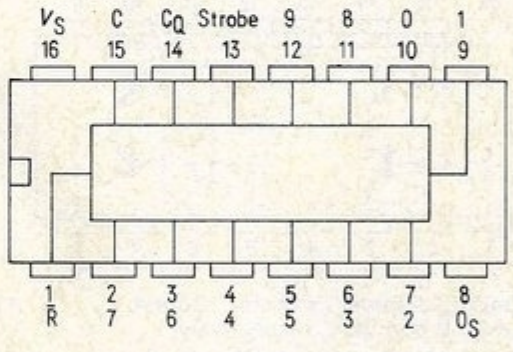
Dual decimal counter for 50 MHz

FLJ 511 - 49705 (Q67000 - J373)
FLJ 515 - 49805 (Q67000 - J374)



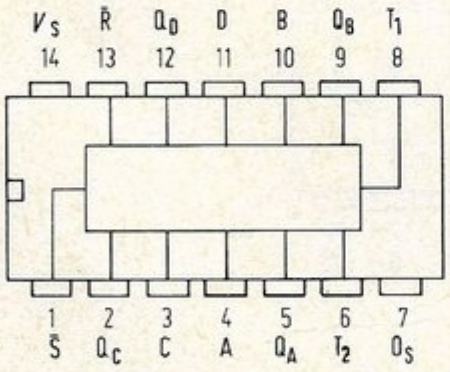
4-Bit binary counter, memory, 7-segment decoder and driver

FLL 171 - 74143 (Q67000 - L58)
FLL 171 T - 74144 (Q67000 - L77)



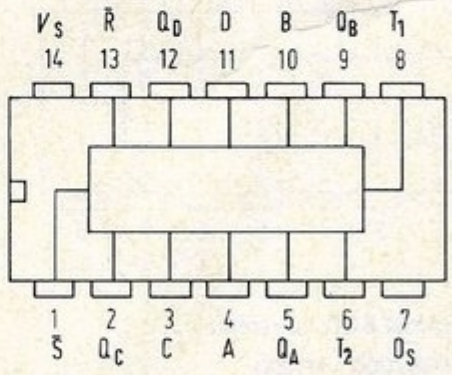
Decimal counter, memory, decoder and driver for indicator tubes

FLL 151 - 74142 (Q67000 - L57)



Decimal counter for 35 MHz

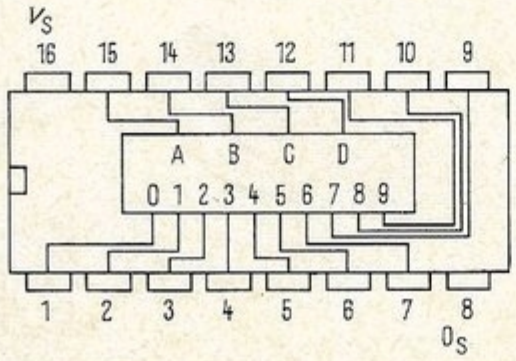
74176 (Q67000 - J434)
84176 (Q67000 - J480)



4-Bit binary counter for 35 MHz

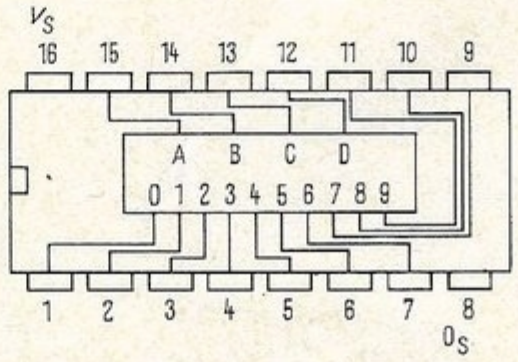
74177 (Q67000 - J435)
84177 (Q67000 - J481)

E. Decoders and Drivers



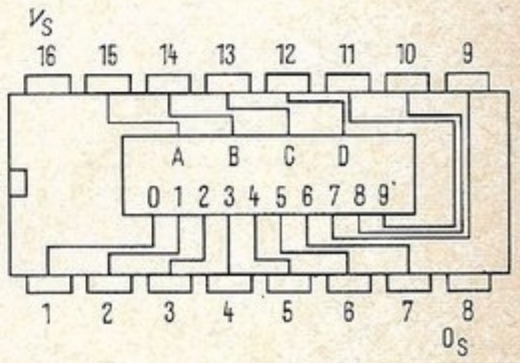
BCD decimal decoder

FLH 281 - 7442 (Q67000 - L3)
FLH 285 - 8442 (Q67000 - L13)



Excess-3 decimal decoder

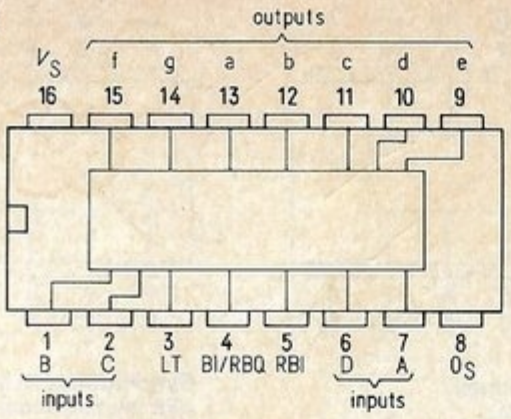
FLH 361 - 7443 (Q67000 - H356)
FLH 365 - 8443 (Q67000 - H404)



Excess-3-Gray decimal decoder

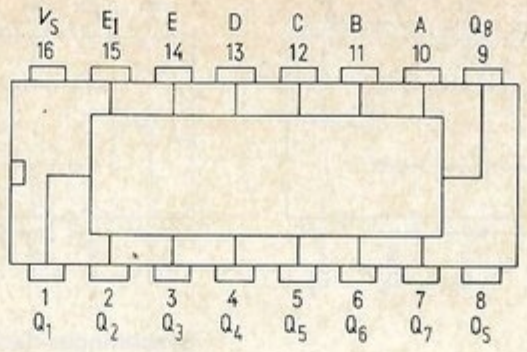
FLH 371 - 7444 (Q67000 - H357)
FLH 375 - 8444 (Q67000 - H403)

E. Decoders and Drivers



BCD-7-segment decoder

FLH 551 - 7448 (Q67000 - L12)
FLH 555 - 8448 (Q67000 - H448)

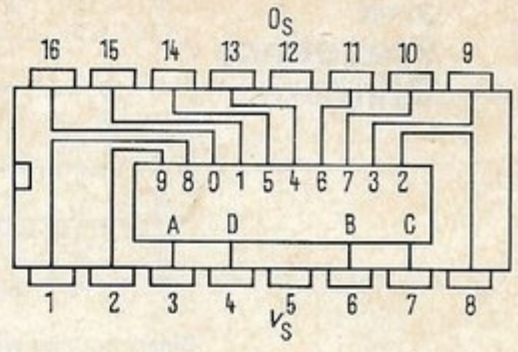


6-Bit-BCD binary converter

FLH 561 - 74184 (Q67000 - H619)
FLH 565 - 84184 (Q67000 - H592)

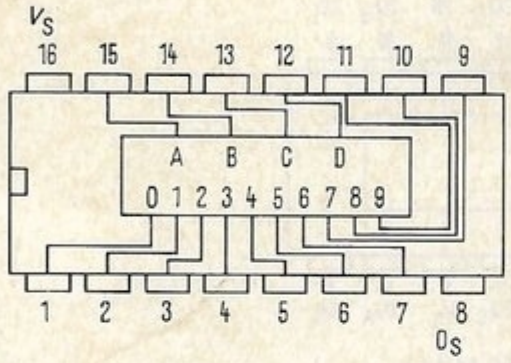
6-Bit-BCD binary converter

FLH 571 - 74185 A (Q67000 - H605)
FLH 575 - 84185 A (Q67000 - H622)



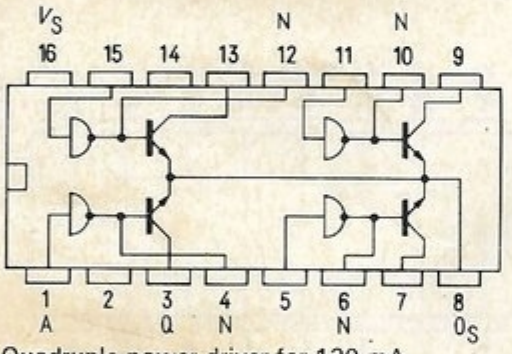
BCD decimal decoder-driver
for indicator tubes

FLL 101 - 74141 (Q67000 - L1)



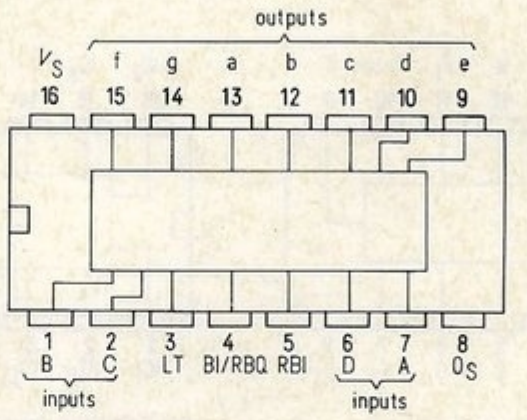
BCD decimal decoder-driver
with open collector output
for 80 mA and 30 V and 15 V, respectively

FLL 111 - 7445 (Q67000 - L9)
FLL 111 T - 74145 (Q67000 - L8)
FLL 115 - 8445 (Q67000 - L46)
FLL 115 T - 84145 (Q67000 - L45)



Quadruple power driver for 130 mA
and 30 V and 60 V, respectively

FLL 141 - 49701 (Q67000 - H331)
FLL 145 - 49801 (Q67000 - H415)
FLL 141 T - 49701 S1 (Q67000 - L92)



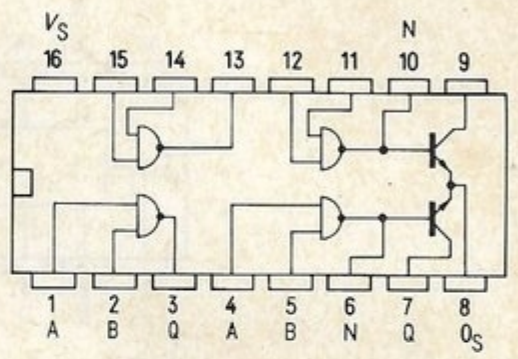
FLL 121; BCD 7-segment decoder
and driver with open collector output
with 30 V/20 mA

FLL 121 T; BCD 7-segment decoder and
driver with open collector output
with 15 V/20 mA

FLL 121 U; BCD 7-segment decoder and
driver with open collector output
with 30 V/40 mA

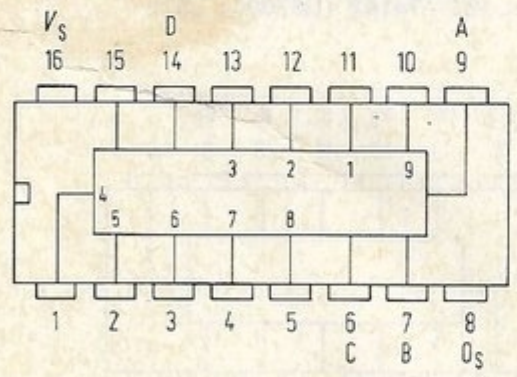
FLL 121 V; BCD 7-segment decoder and
driver with open collector output
with 15 V/40 mA

FLL 121 - 7446 (Q67000 - L10)
FLL 121 T - 7447 (Q67000 - L11)
FLL 121 U - 7446 A (Q67000 - L51)
FLL 121 V - 7447 A (Q67000 - L63)



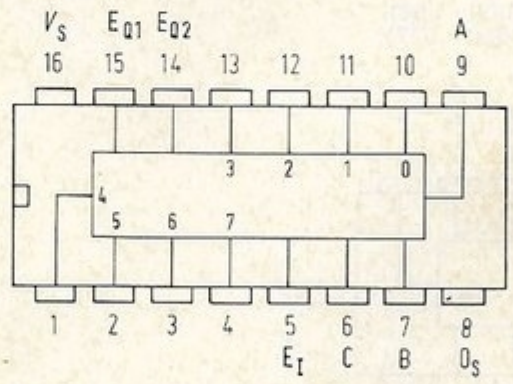
Dual AND power driver for 400 mA
and 30 V and 60 V, respectively,
and dual 2-input NAND gate

FLL 131 - 49700 (Q67000 - H236)
FLL 131 T - 49700 S1 (Q67000 - H668)
FLL 135 - 49800 (Q67000 - H314)
FLL 135 T - 49800 S1 (Q67000 - L67)



4-Bit decimal BCD converter

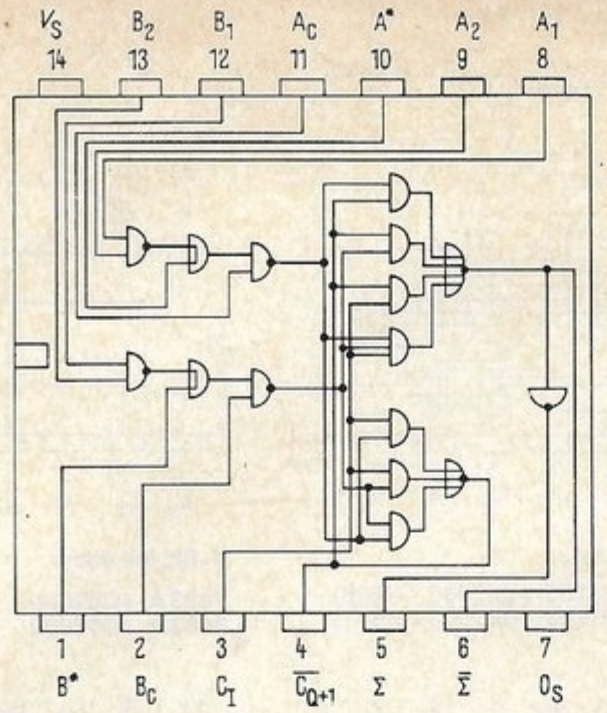
74147 (Q67000 - H724)
84147 (Q67000 - H854 - F9)



3-Bit decimal BCD converter

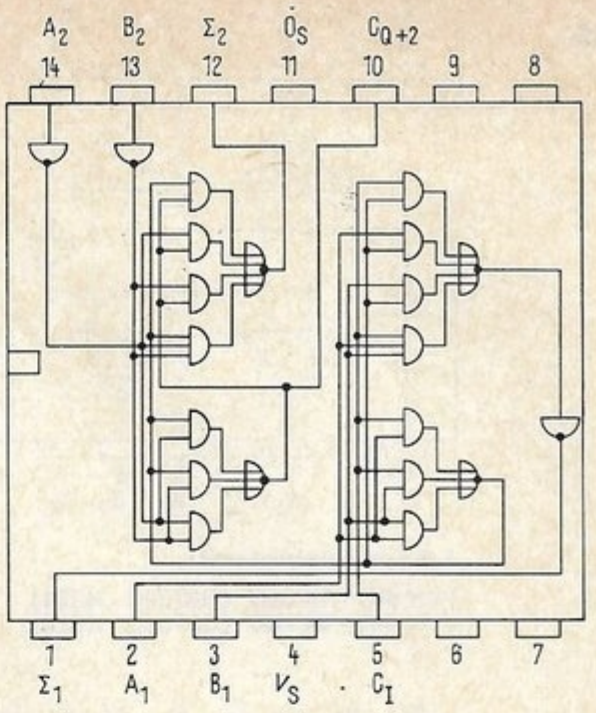
74148 (Q67000 - H725)
84148 (Q67000 - H855)

F. Adders



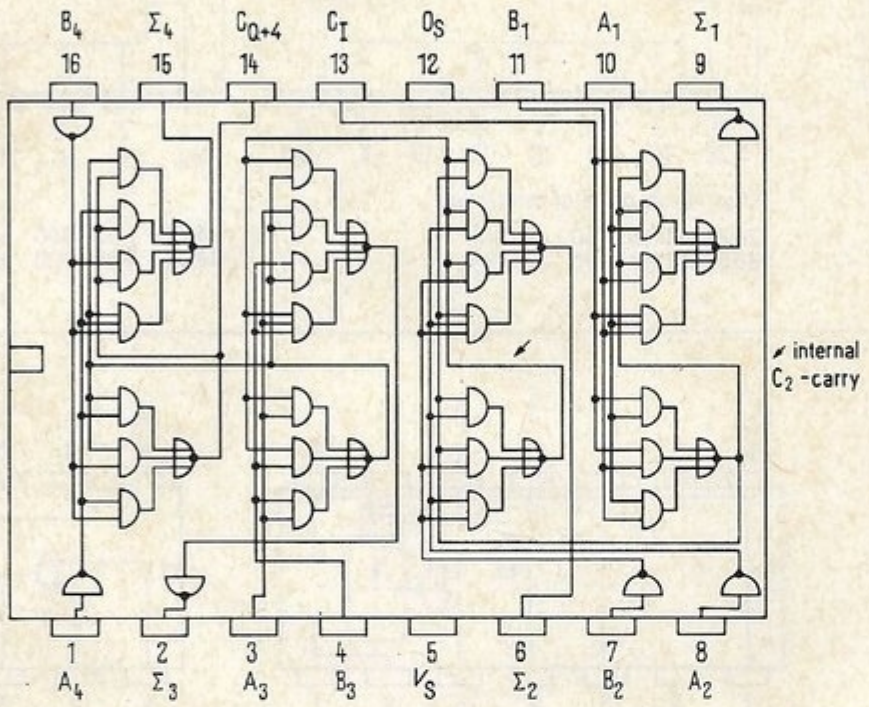
1-Bit full adder

FLH 221 - 7480 (Q67000 - H455)
FLH 225 - 8480 (Q67000 - H244)



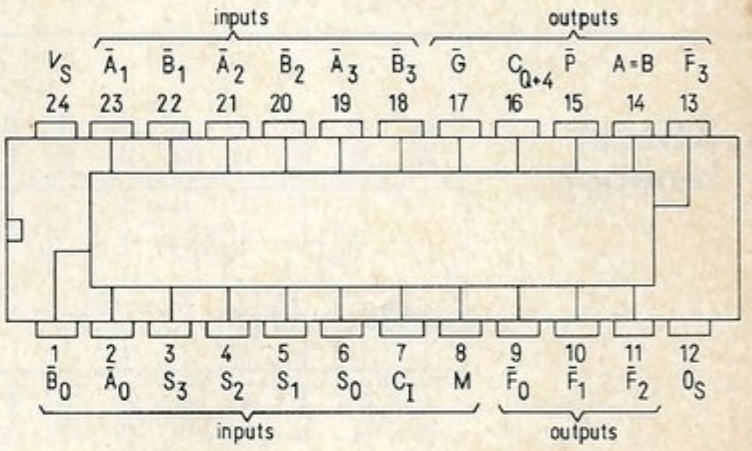
2-Bit full adder

FLH 231 - 7482 (Q67000 - H456)
FLH 235 - 8482 (Q67000 - H245)



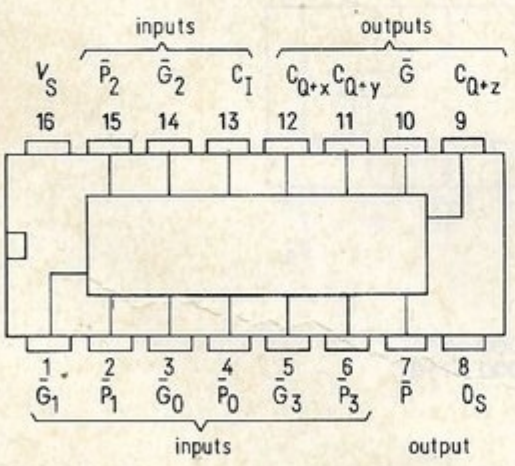
4-Bit full adder

FLH 241 - 7483 (Q67000 - H457)
FLH 245 - 8483 (Q67000 - H246)



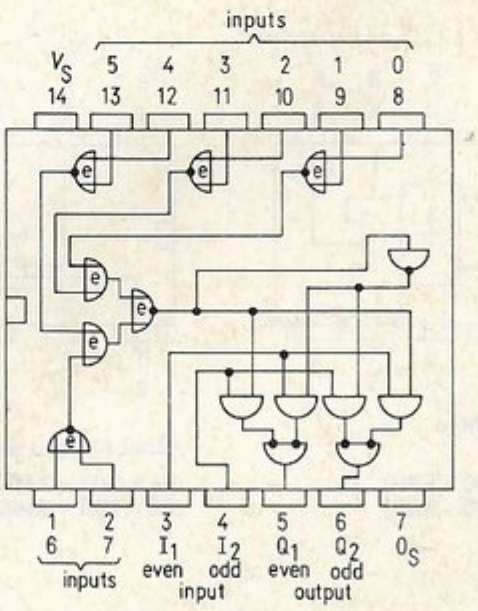
4-Bit arithmetic logic unit (ALU)

FLH 401 - 74181 (Q67000 - H431)
FLH 405 - 84181 (Q67000 - H427)



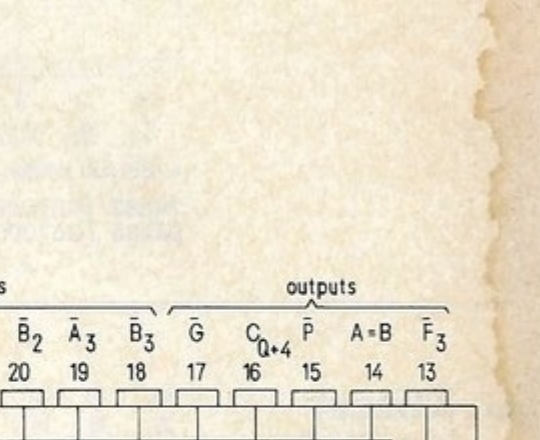
Look-ahead carry-generator for ALU

FLH 411 - 74182 (Q67000 - H486)
FLH 415 - 84182 (Q67000 - H501)



8-Bit parity generator

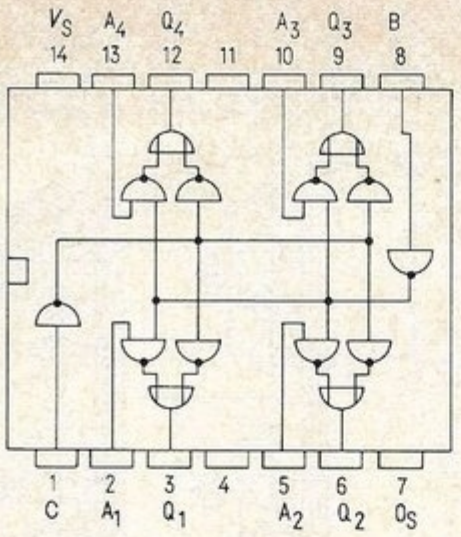
FLH 421 - 74180 (Q67000 - H299)
FLH 425 - 84180 (Q67000 - H453)



4-Bit comparator

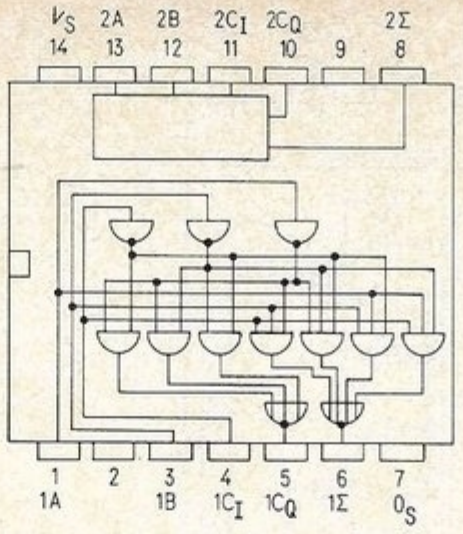
FLH 431 - 7485 (Q67000 - H494)
FLH 435 - 8485 (Q67000 - H508)

F. Adders



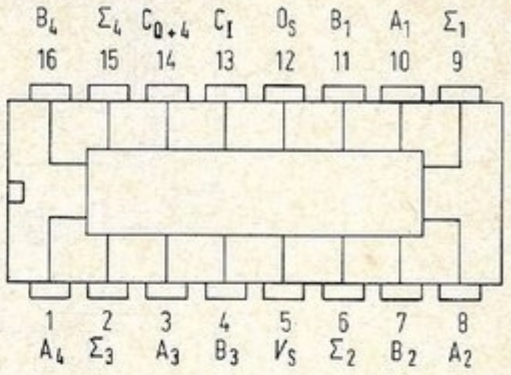
4-Bit complement unit

FLH 441 - 74 H87 (Q67000 - H324)
FLH 445 - 84 H87 (Q67000 - H510)



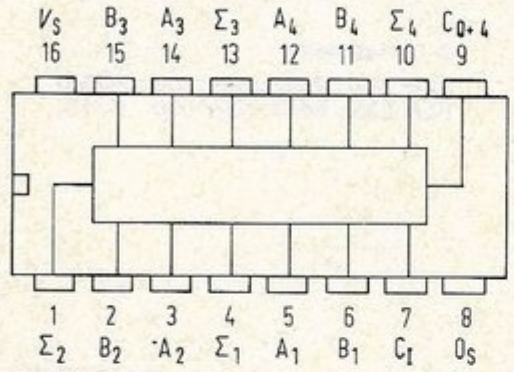
Dual 1-bit full adder

FLH 451 - 74 H183 (Q67000 - H495)
FLH 455 - 84 H183 (Q67000 - H511)



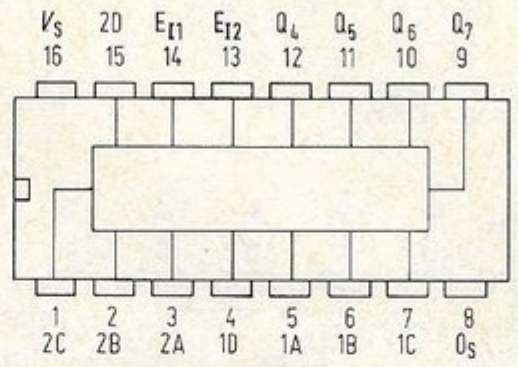
4-Bit full adder

7483 A (Q67000 - H849)
8483 A (Q67000 - H850)



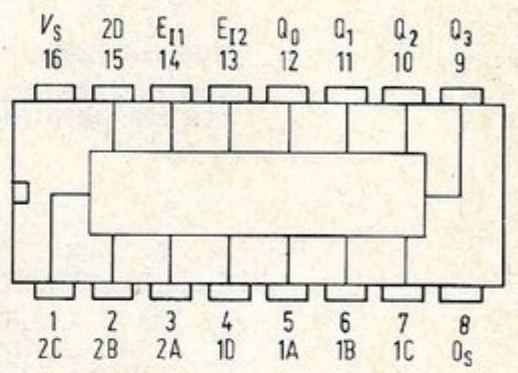
4-Bit full adder

74283 (Q67000 - H728)
84283 (Q67000 - H906)



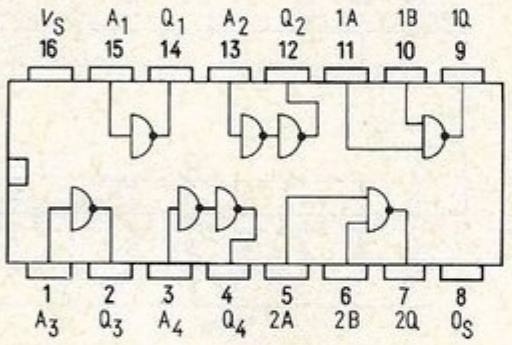
Dual 4-bit parallel multiplier

74284 (Q67000 - H924)
84284 (Q67000 - H917)



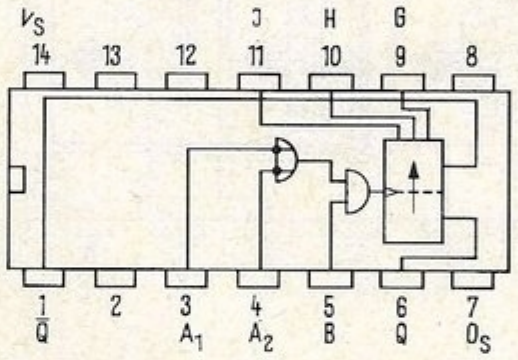
74285 (Q67000 - H926)
84285 (Q67000 - H918)

G. Miscellaneous



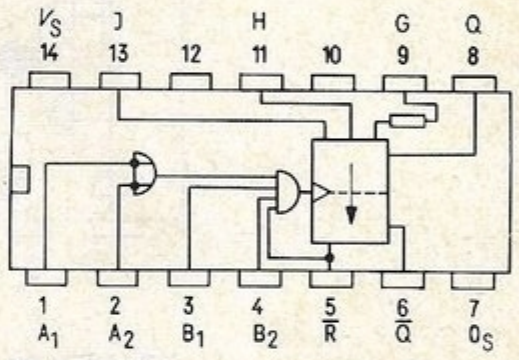
Delay unit

FLH 641 - 49703 (Q67000 - H604)



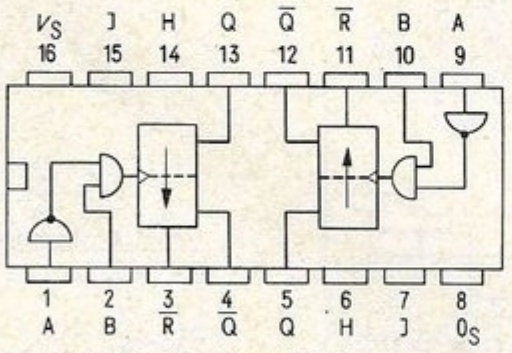
Monostable multivibrator

FLK 101 - 74121 (Q67000 - K13)
FLK 105 - 84121 (Q67000 - K10)



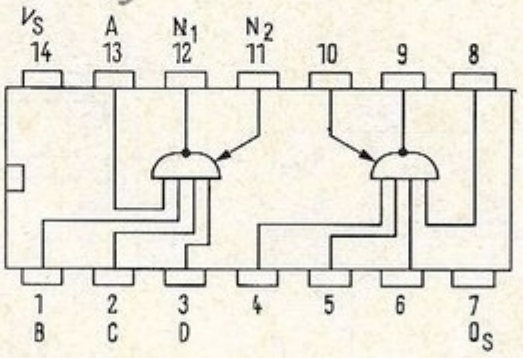
Retriggerable monostable multivibrator with reset

FLK 111 - 74122 (Q67000 - K27)
FLK 115 - 84122 (Q67000 - K28)



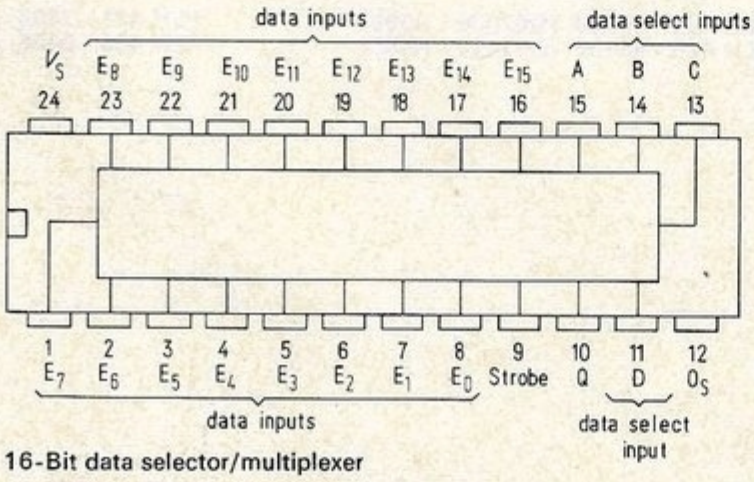
Dual retriggerable monostable multivibrator with reset

FLK 121 - 74123 (Q67000 - K29)
FLK 125 - 84123 (Q67000 - K30)



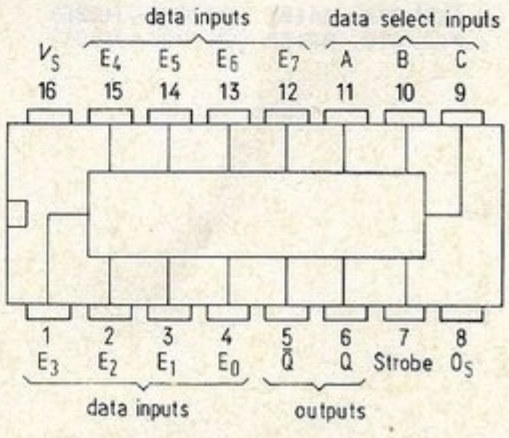
Dual 4-input expander

FLY 101 - 7460 (Q67000 - Y1)
FLY 105 - 8460 (Q67000 - Y18)


data inputs
data select inputs
V_S E_8 E_9 E_{10} E_{11} E_{12} E_{13} E_{14} E_{15} A B C
24 23 22 21 20 19 18 17 16 15 14 13
1 2 3 4 5 6 7 8 9 10 11 12
E_7 E_6 E_5 E_4 E_3 E_2 E_1 E_0 Strobe Q D O_S
data inputs
data select input

16-Bit data selector/multiplexer

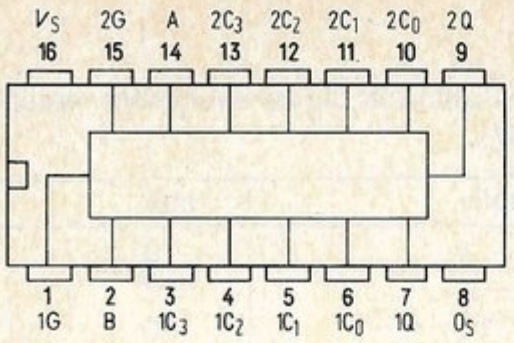
FLY 111 - 74150 (Q67000 - Y31)
FLY 115 - 84150 (Q67000 - Y46)


data inputs
data select inputs
V_S E_4 E_5 E_6 E_7 A B C
16 15 14 13 12 11 10 9
1 2 3 4 5 6 7 8
E_3 E_2 E_1 E_0 $\overline{Q}$ Q Strobe O_S
data inputs
outputs

8-Bit data selector/multiplexer

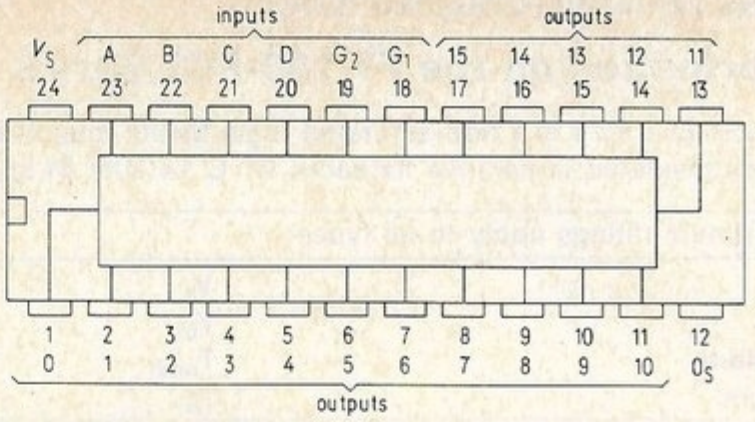
FLY 121 - 74151 (Q67000 - Y30)
FLY 125 - 84151 (Q67000 - Y29)

G. Miscellaneous



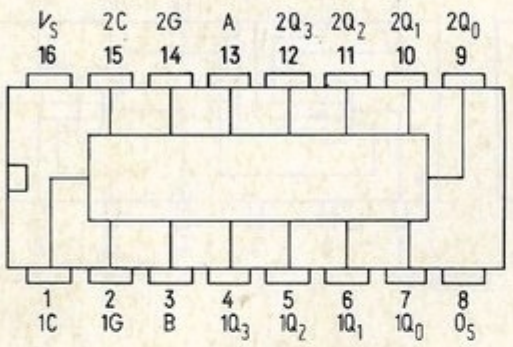
Dual 4-bit data selector/multiplexer

FLY 131 - 74153 (Q67000 - Y54)
FLY 135 - 84153 (Q67000 - Y58)



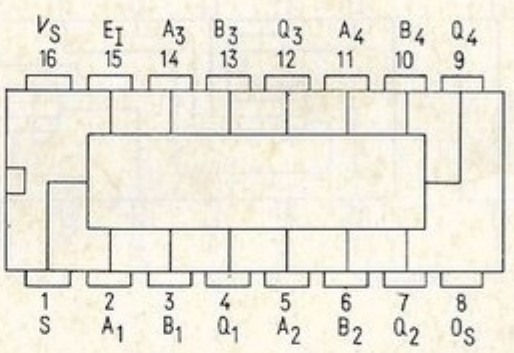
4-Bit binary decoder/demultiplexer

FLY 141 - 74154 (Q67000 - Y45)
FLY 145 - 84154 (Q67000 - Y51)



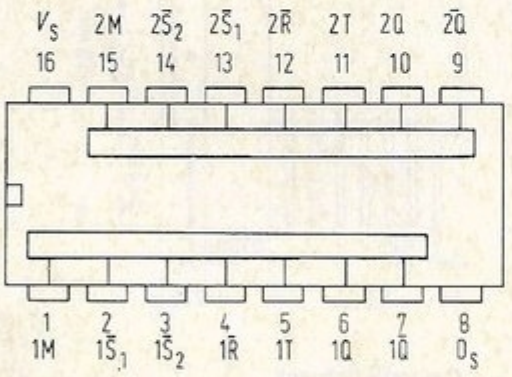
Dual 2-bit binary decoder/demultiplexer

FLY 151 - 74155 (Q67000 - Y52)
FLY 155 - 84155 (Q67000 - Y59)
FLY 161 - 74156 (Q67000 - Y55)
FLY 165 - 84156 (Q67000 - Y60)



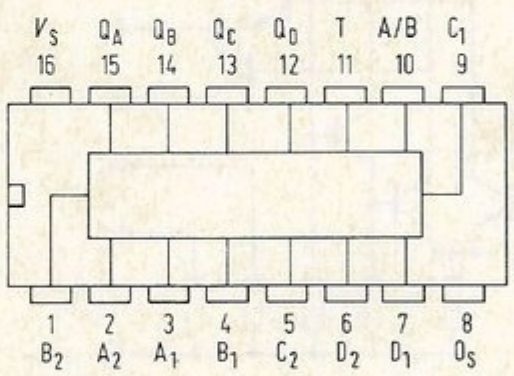
Quadruple 2-bit data selector/multiplexer

FLY 171 - 74157 (Q67000 - Y75)
FLY 175 - 84157 (Q67000 - Y77)



Dual pulse synchronizer

FLY 181 - 74120 (Q67000 - Y98)
FLY 185 - 84120 (Q67000 - Y127)



Quadruple 2-bit data selector with memory

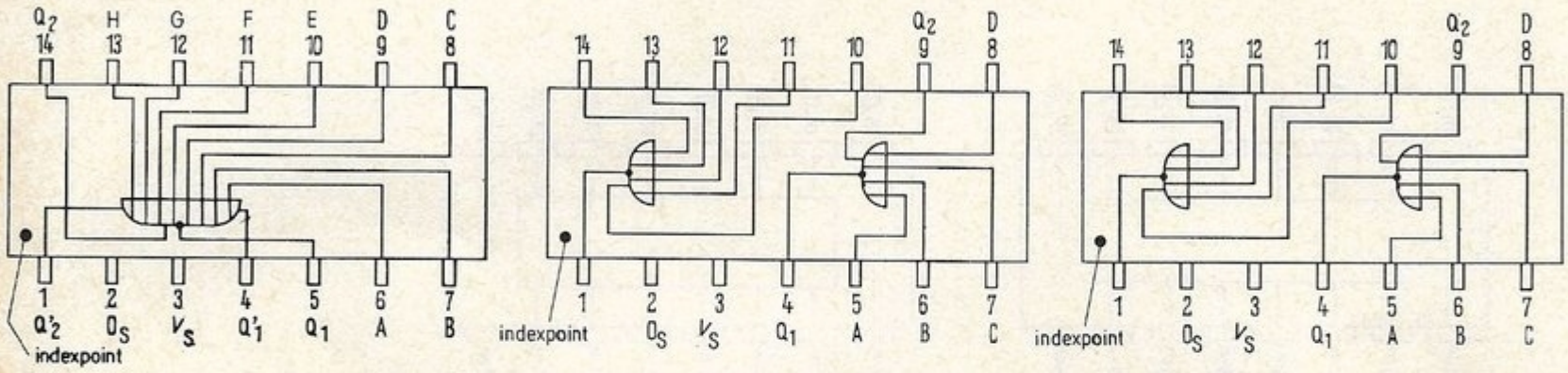
74298 (Q67000 - Y162)
84298 (Q67000 - Y163)

2. ECL-Series (Emitter-Coupled-Logic)

General Information on the FY 100-ECL Series

The FY 100 series of ECL IC's is a non-saturated logic family intended for application in digital equipment requiring very short delay times. The devices are encapsulated in ceramic flatpacks 21 C 14 DIN 41 865 (TO-87).

The following maximum ratings apply to all types:		min	max	unit
Supply voltage	V_S	− 7	0	V
Input voltage	V_{in}	− 5	+ 2	V
Operating temperature	T_{amb}	10	60	°C
Storage temperature	T_S	−40	150	°C



8-Input NOR/OR gate
FYH 104 (Q67000 - H187)

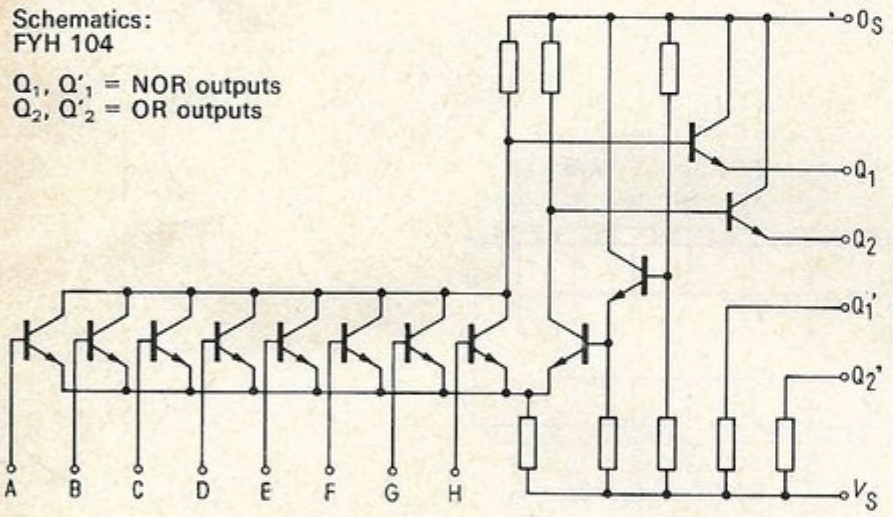
4-Input NOR/OR gate
FYH 124 (Q67000 - H188)

4-Input NOR/OR gate with open emitter output for wired-OR connections
FYH 134 (Q67000 - H189)

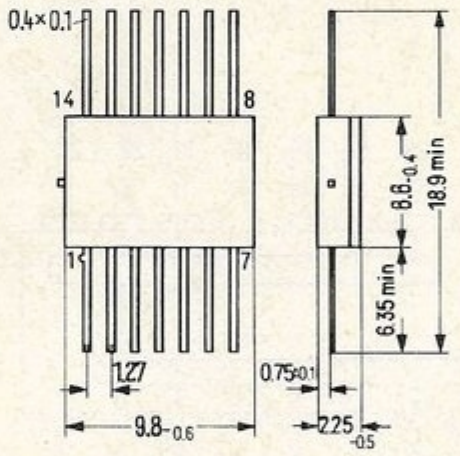
Circuit diagrams:

Schematics:
FYH 104

Q_1, Q'_1 = NOR outputs
Q_2, Q'_2 = OR outputs



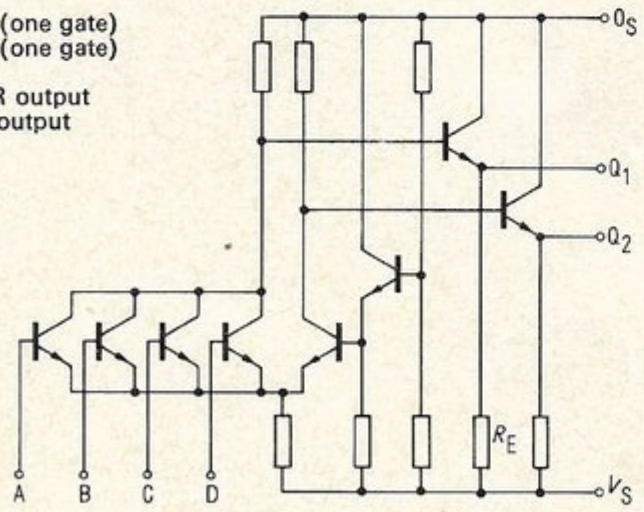
Package outline:



Ceramic flatpack
21 C 14 DIN 41 865 (TO-87)
Weight approx. 0.35 g

FYH 124 (one gate)
FYH 134 (one gate)

Q_1 = NOR output
Q_2 = OR output



R_E for FYH 124 only

3. LSL-Series (Low-Speed Noise-Immune Logic)

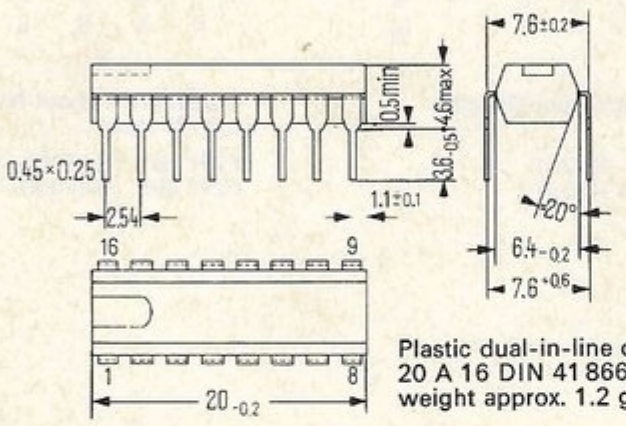
General Information on the FZ 100-LSL Serie

FZ 100 is a low-speed noise-immune logic series of monolithic IC's. Their use in applications where proper functioning may be impaired by noise pulses offers the following advantages:

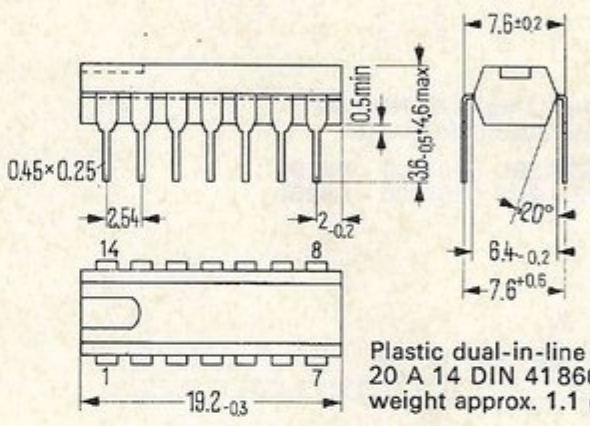
1. High static noise immunity.
   Depending upon switching condition, its typical range lies between 5 and 8 V using a Z-diode at an operating voltage of 15 V.
2. High dynamic noise immunity.
   It is achieved by a high pulse duration and long propagation delay times (typ. 350 ns).
3. Variable extension of switching times by using additional capacitors between the N and Q pins. The dynamic noise immunity may thus be increased, as required.
4. Operating voltage range between 11.4 and 17 V.
5. Push-pull output stage with a low output resistance in both logic states.
6. Plastic dual-in-line package.
7. Two temperature ranges: 0 to 70 °C (range 1, e. g. FZH 101); −25 to 85 °C (range 5, e. g. FZH 105).

The following maximum ratings apply to all types:		min	max	Unit
Supply voltage	V_S	0	18	V
Input voltage	V_{in}	0	18	V
Operating temperature (range 1)	T_{amb}	0	70	°C
Operating temperature (range 5)	T_{amb}	−25	85	°C
Storage temperature	T_S	−65	150	°C
Thermal resistance (system to ambient air)	$R_{th\,Samb}$		150	K/W

LSL series' package outlines and dimensional drawings:

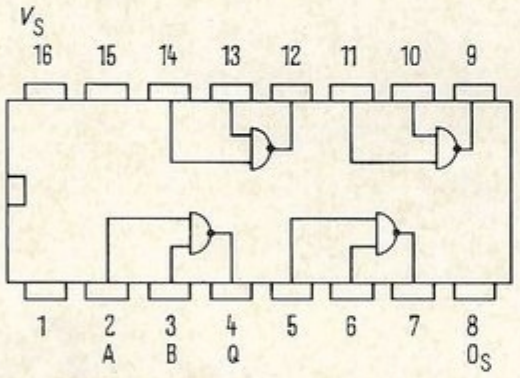


Plastic dual-in-line case
20 A 16 DIN 41 866 (16 pins)
weight approx. 1.2 g



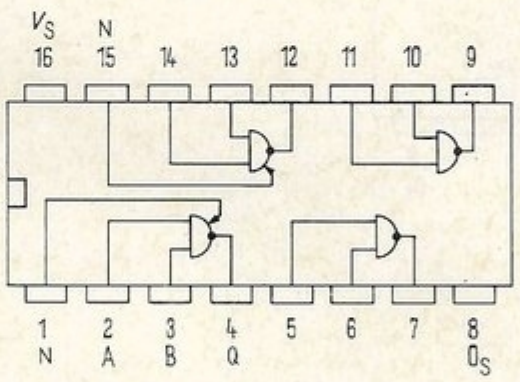
Plastic dual-in-line case
20 A 14 DIN 41 866 (14 pins)
weight approx. 1.1 g, dimensions in mm

A. Gates



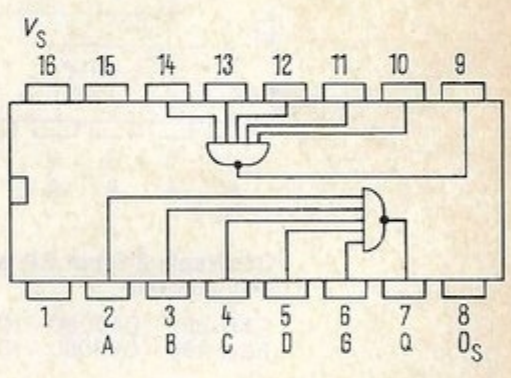
Quadruple 2-input NAND gate

FZH 101 (Q67000 - H190)
FZH 105 (Q67000 - H250)



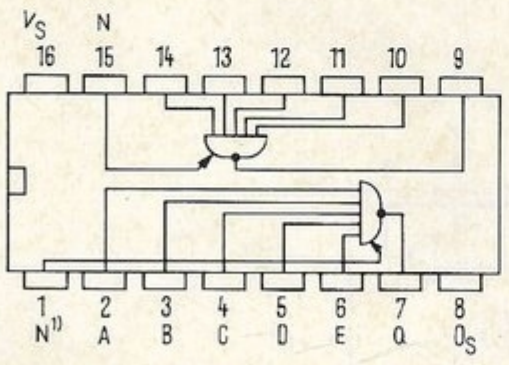
Quadruple 2-input NAND gate with N-input

FZH 111 (Q67000 - H191)
FZH 115 (Q67000 - H215)



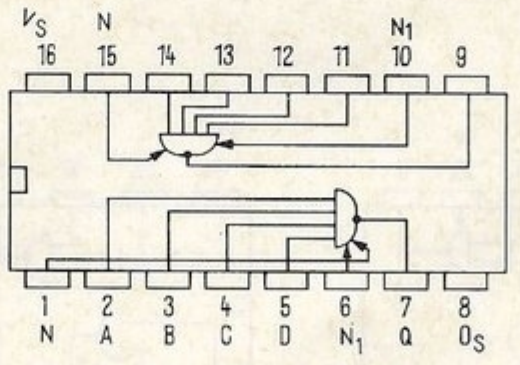
Dual 5-input NAND gate

FZH 121 (Q67000 - H192)
FZH 125 (Q67000 - H254)



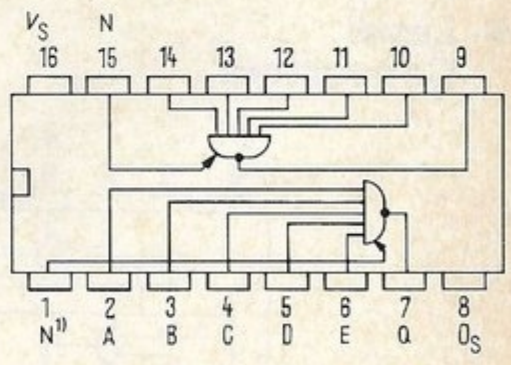
Dual 5-input NAND gate with N-input

FZH 131 (Q67000 - H193)
FZH 135 (Q67000 - H255)



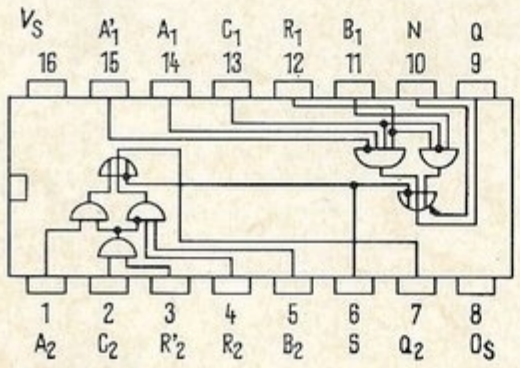
Dual 4-input NAND gate with expander node N_1 and N-input

FZH 171 (Q67000 - H328)
FZH 175 (Q67000 - H329)



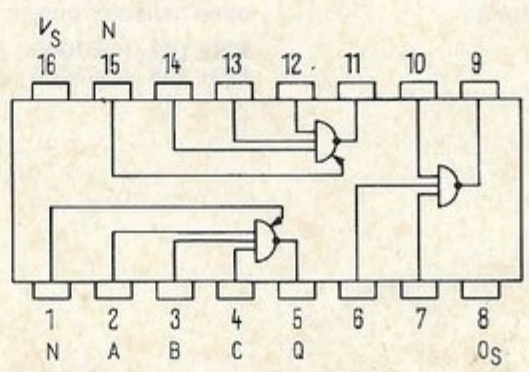
Dual 5-input NAND power gate with N-input

FZH 141 (Q67000 - H194)
FZH 145 (Q67000 - H256)



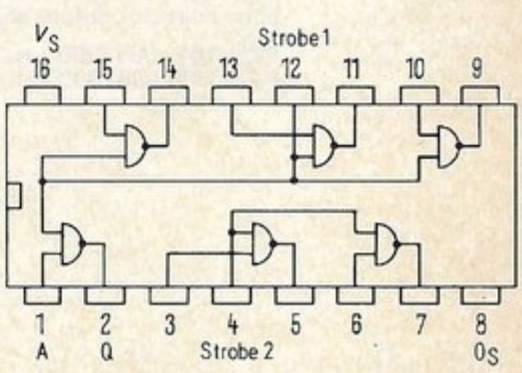
Dual AND/OR gate with N-input

FZH 151 (Q67000 - H195)
FZH 155 (Q67000 - H260)



Triple 3-input NAND gate with N-input

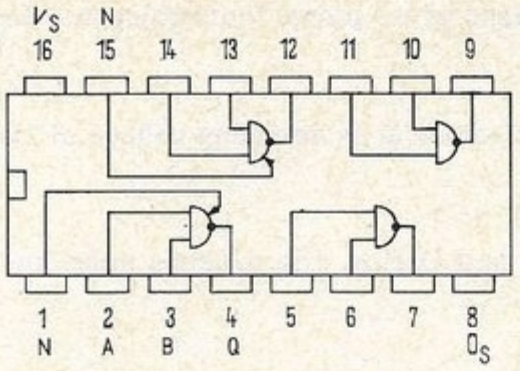
FZH 191 (Q67000 - H633)
FZH 195 (Q67000 - H634)



Hex inverter with strobe input

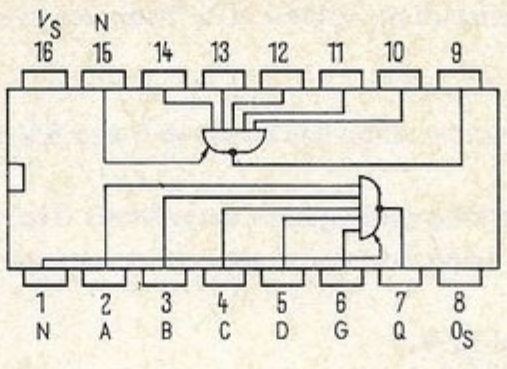
FZH 201 (Q67000 - H636)
FZH 205 (Q67000 - H637)

A. Gates



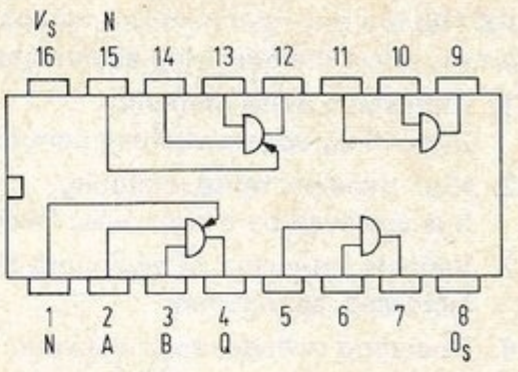
Quadruple 2-input NAND gate with open collector output and N-input

FZH 211 (Q67000 - H639)
FZH 215 (Q67000 - H640)



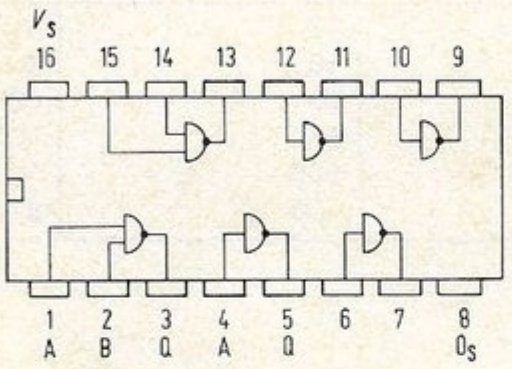
Dual 5-input NAND gate with open collector output and N-input

FZH 231 (Q67000 - H642)
FZH 235 (Q67000 - H643)



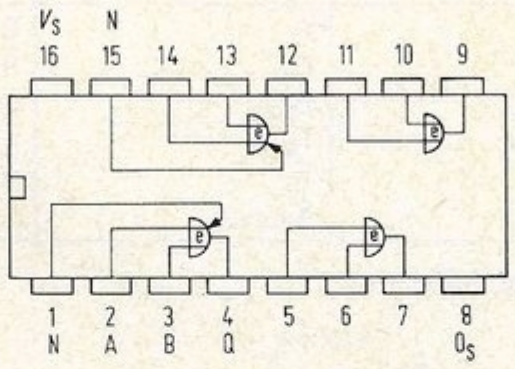
Quadruple 2-input AND gate with N-input

FZH 251 (Q67000 - H817)
FZH 255 (Q67000 - H818)



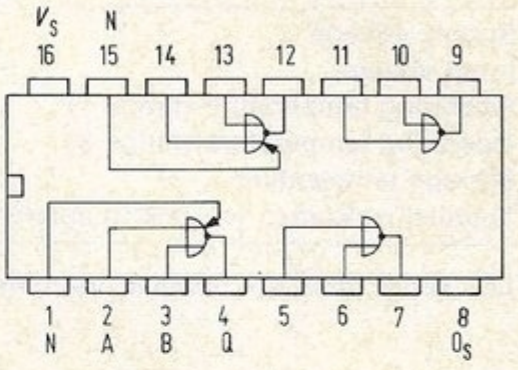
Dual 2-input NAND gate and quadruple inverter

FZH 261 (Q67000 - H819)
FZH 265 (Q67000 - H820)



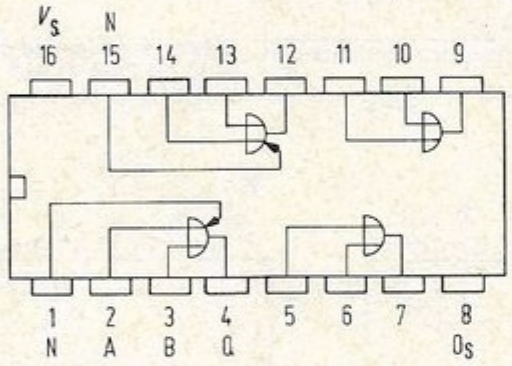
Quadruple 2-input exclusive-OR gate with N-input

FZH 271 (Q67000 - H821)
FZH 275 (Q67000 - H822)



Quadruple 2-input NOR gate with N-input

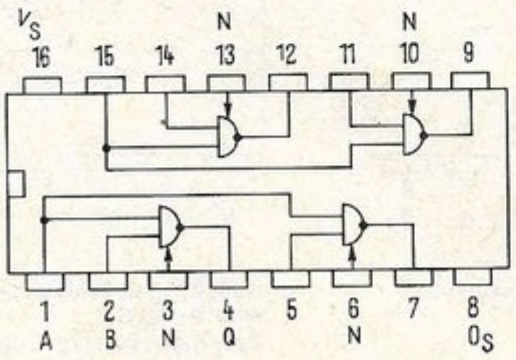
FZH 281 (Q67000 - H823)
FZH 285 (Q67000 - H824)



Quadruple 2-input OR gate with N-input

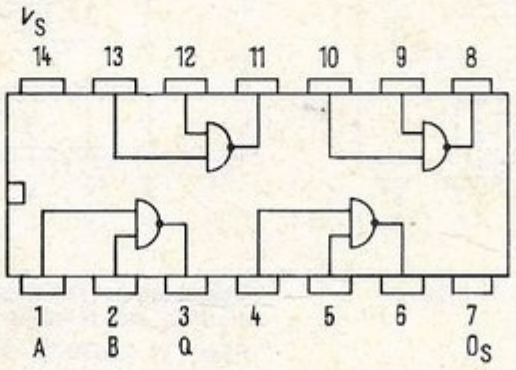
FZH 291 (Q67000 - H825)
FZH 295 (Q67000 - H826)

B. Level Converters



Quadruple LSL-TTL level converter with open collector output and N-input

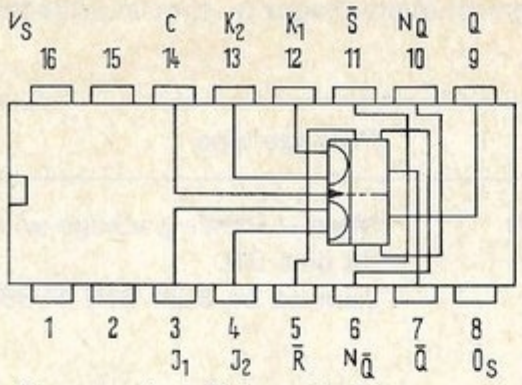
FZH 161 (Q67000 - H288)
FZH 165 (Q67000 - H289)



Quadruple TTL-LSL level converter with open collector output

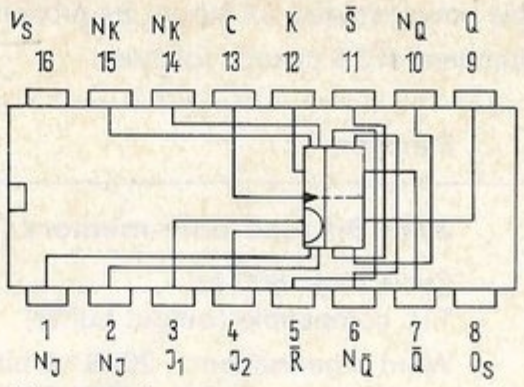
FZH 181 (Q67000 - H326)
FZH 185 (Q67000 - H327)

C. Flipflops and Adders



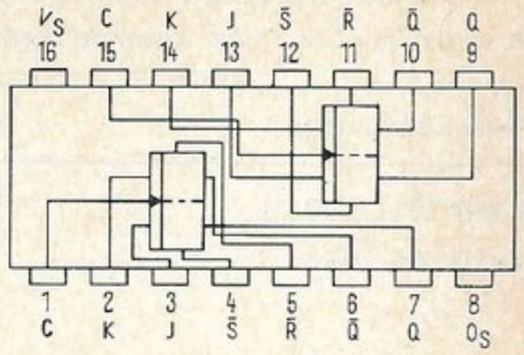
JK-master-slave-flipflop with 2 J and K-inputs and N-inputs

FZJ 101 (Q67000 - J95)
FZJ 105 (Q67000 - J124)



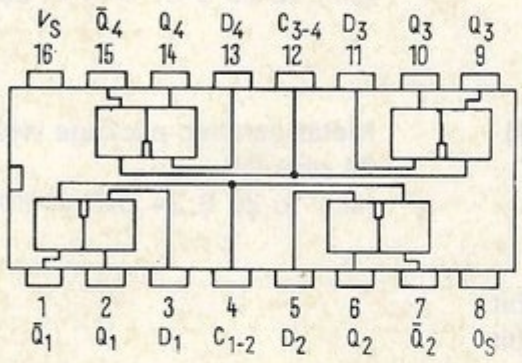
JK-master-slave-flipflop with N-inputs

FZJ 111 (Q67000 - J96)
FZJ 115 (Q67000 - J125)



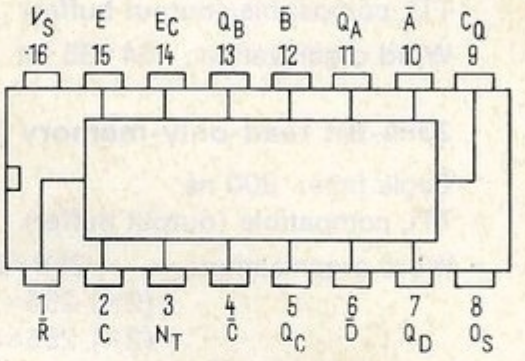
Dual JK-master-slave-flipflop with set and reset

FZJ 121 (Q67000 - J385)
FZJ 125 (Q67000 - J386)



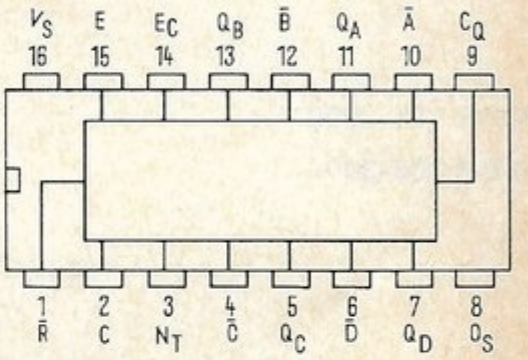
Quadruple D-flipflop

FZJ 131 (Q67000 - J388)
FZJ 135 (Q67000 - J389)



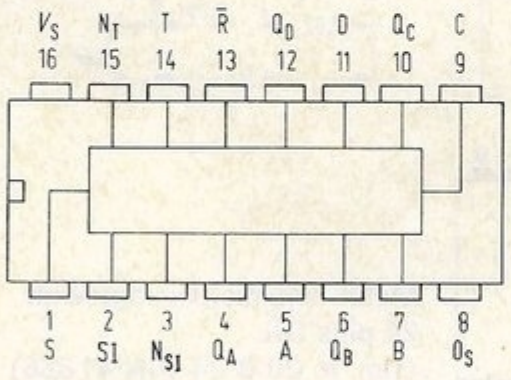
Synchronous decimal counter with set and reset, clock and carry gating

FZJ 141 (Q67000 - J391)
FZJ 145 (Q67000 - J392)



Synchronous binary counter with set and reset, clock and carry gating

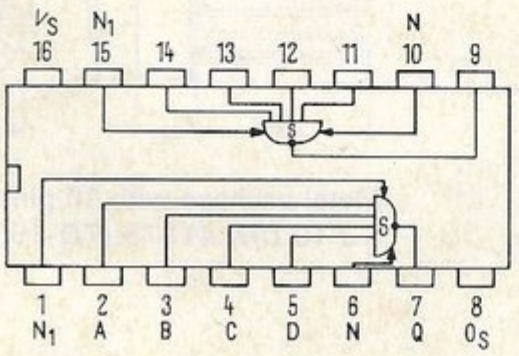
FZJ 151 (Q67000 - J394)
FZJ 155 (Q67000 - J395)



Synchronous 4-bit shiftregister with set and reset and N-input

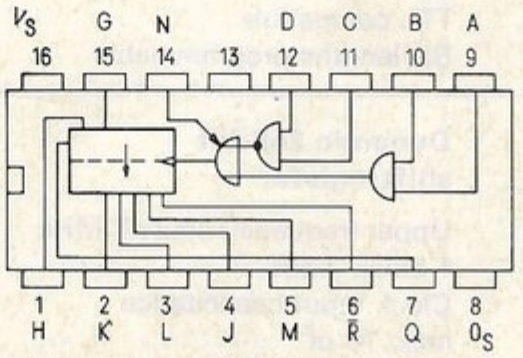
FZJ 161 (Q67000 - J507)
FZJ 165 (Q67000 - J562)

D. Special Circuits



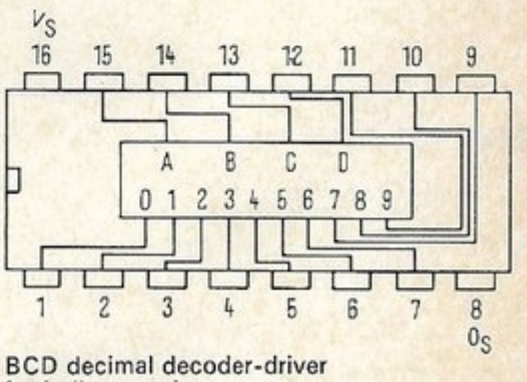
Dual 4-input NAND Schmitt trigger with expander node N_1 and N-input

FZH 241 (Q67000 - H645)
FZH 245 (Q67000 - H646)



Timing circuit for the following operating modes: monostable multivibrator, pulse delay, pulse reduction

FZK 101 (Q67000 - K6)
FZK 105 (Q67000 - K7)



BCD decimal decoder-driver for indicator tubes

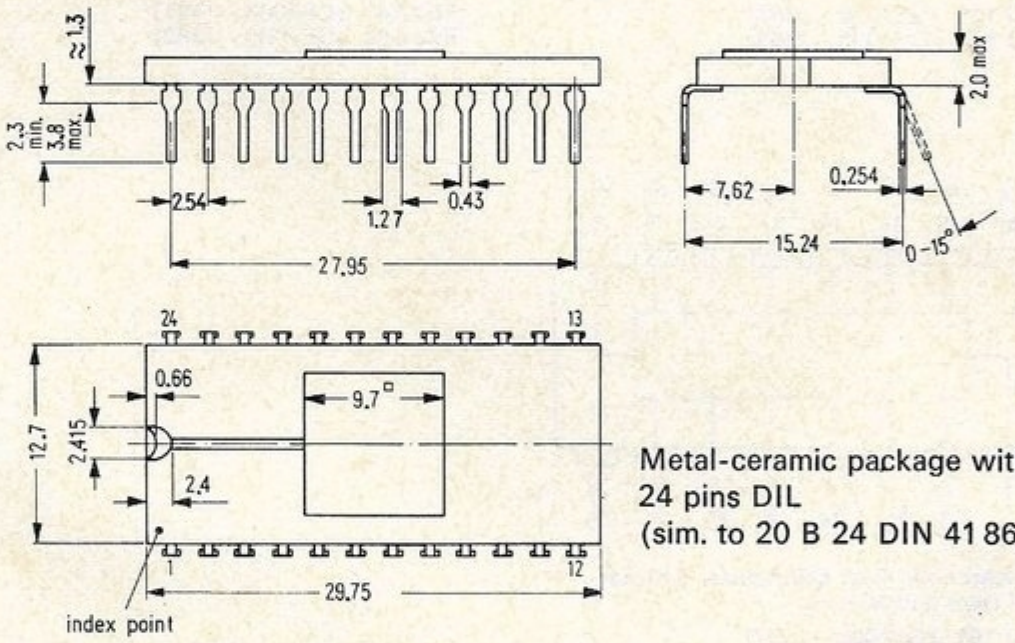
FZL 101 (Q67000 - L68)

4. MOS Series (Metal-Oxide-Silicon)

Besides their high packing density, these circuits are characterized by a high noise rejection, low power requirements and a high input resistance. The outputs are provided with TTL compatible power stages. All inputs are protected against overvoltages by special protective devices.

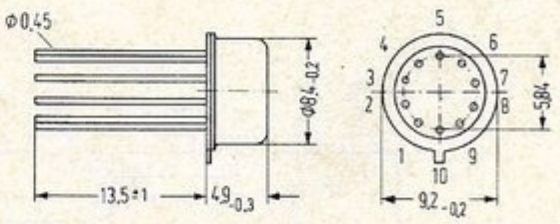
A summary of the most common Siemens standard MOS circuits follows:

Type Designation	Function	Package type
GDR 101-1000 [1] **GDR 106-1000**	**2048-Bit read-only-memory** (ROM) Cycle time: 800 ns TTL compatible (output buffer) Word organization: 2048×1 bit 1024×2 bit 512×4 bit 256×8 bit (further possibilities of organization upon request)	Metal-ceramic package with 24 pins DIL (sim. to 20 B 24 DIN 41866)
GDR 101-2000 [1] **GDR 106-2000**	**2240-Bit read-only-memory** (ROM) Cycle time: 800 ns TTL compatible (output buffer) Word organization: 64×35 bit	Metal-ceramic package with 24 pins DIL (sim. to 20 B 24 DIN 41866)
GDR 101-3000 [1] **GDR 106-3000**	**2304-Bit read-only-memory** (ROM) Cycle time: 800 ns TTL compatible (output buffer) Word organization: 256×9 bit (2×) 256×1+8 bit (2×) 256×2+7 bit (further possibilities of organization upon request)	Metal-ceramic package with 24 pins DIL (sim. to 20 B 24 DIN 41866)



Metal-ceramic package with 24 pins DIL (sim. to 20 B 24 DIN 41866)

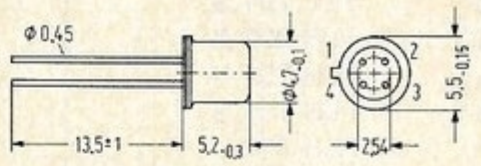
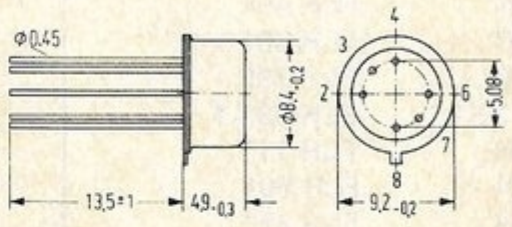
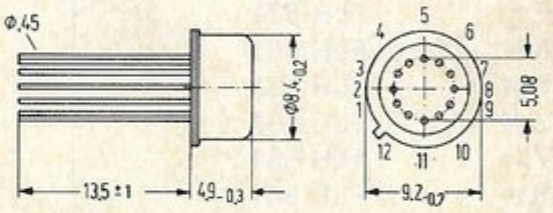
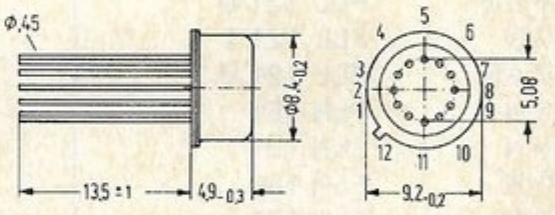
FDN 141 A [1]	**Dynamic 256-bit shiftregister** Upper frequency limit: 3 (5) MHz Power requirement: 0.8 mW/bit at 3 MHz 2 clock inputs TTL compatible Bit-lengths programmable	
FDN 151 A [1]	**Dynamic 256-bit shiftregister** Upper frequency limit: 1 MHz 1 clock input Clock input capacitance max. 10 pf TTL compatible Bit-lengths programmable	



Metal package with 10 pins 5 J 10 DIN 41873 (TO-100)

[1]) Upon request and ordering a minimum number of pieces, these elements are also supplied for lower operating voltages. (produced by the ion implantation method).

4. MOS Series (Metal-Oxide-Silicon)

Type Designation	Function	Package Type
SAJ 131 (135)[1]	**Static frequency divider 1/1000** (1 output pulse with 1000 input pulses) without reset input	 Metal package with 4 pins 18 A 4 DIN 41 876 (sim. to TO-72)
SAJ 131 A (135 A)[1]	**Static frequency divider 1/1000** like SAJ 131, however, with an reset input	 Metal package with 6 pins 5 H 6 DIN 41 873 (sim. to TO-78)
SAJ 205	**Staircase voltage generator** (integrated 8-stage binary divider with resistor network) 7 saw-tooth voltages at output in precise relation to input frequency f_I ($f_{I/4}$ . . . $f_{I/256}$) Linearity of staircase function: ± 3% max.	 Metal package with 12 pins 5 G 12 DIN 41 873 (sim. to TO-73)
S 116	**5-Channel multiplexer** p-channel announcement-type Max. operating voltage: V_{DSS} = −30 V Switching resistance: typ. 300 Ω Gate input resistance: 10^{10} Ω	 Metal package with 12 pins 5 G 12 DIN 41 873 (sim. to TO-73)

[1]) Upon request and ordering a minimum number of pieces, these elements are also supplied for lower operating voltages. (produced by the ion implantation method).

5. Comparisan Table for Integrated Circuits (Foreign Product-Siemens Type)

Digital integrated circuits

SN 7400 N	FLH 101
SN 7401 N	FLH 201
SN 7401 NS1	FLH 201 S
SN 7401 NS3	FLH 201 T
SN 7402 N	FLH 191
SN 7402 NS1	FLH 191 S
SN 7403 N	FLH 291
SN 7403 NS1	FLH 291 S
SN 7403 NS3	FLH 291 T
SN 7404 N	FLH 211
SN 7405 N	FLH 271
SN 7405 NS1	FLH 271 S
SN 7405 NS3	FLH 271 T
SN 7406 N	FLH 481
SN 7407 N	FLH 491
SN 7408 N	FLH 381
SN 7409 N	FLH 391
SN 7409 NS1	FLH 391 T
SN 7410 N	FLH 111
SN 7412 N	FLH 501
SN 7413 N	FLH 351
SN 7416 N	FLH 481 T
SN 7417 N	FLH 491 T
SN 7420 N	FLH 121
SN 7422 N	FLH 611
SN 7423 N	FLH 511
SN 7425 N	FLH 521
SN 7426 N	FLH 291 U
SN 7427 N	FLH 621
SN 7428 N	FLH 661
SN 7430 N	FLH 131
SN 7432 N	FLH 631
SN 7437 N	FLH 531
SN 7438 N	FLH 541
SN 7440 N	FLH 141
SN 7442 N	FLH 281
SN 7443 N	FLH 361
SN 7444 N	FLH 371
SN 7445 N	FLL 111
SN 7446 N	FLL 121
SN 7446 AN	FLL 121 U
SN 7447 N	FLL 121 T
SN 7447 AN	FLL 121 V
SN 7448 N	FLH 551
SN 7450 N	FLH 151
SN 7451 N	FLH 161
SN 7453 N	FLH 171
SN 7454 N	FLH 181
SN 7460 N	FLY 101
SN 7470 N	FLJ 101
SN 7472 N	FLJ 111
SN 7473 N	FLJ 121
SN 7474 N	FLJ 141
SN 7475 N	FLJ 151
SN 7476 N	FLJ 131
SN 7480 N	FLH 221
SN 7481 AN	FLQ 111
SN 7482 N	FLH 231
SN 7483 N	FLH 241
SN 7484 AN	FLQ 121
SN 7485 N	FLH 431
SN 7486 N	FLH 341
SN 74H87 N	FLH 441
SN 7488 N	FLR 101
SN 7489 N	FLQ 101
SN 7490 N	FLJ 161
SN 7490 NS1	FLJ 161 S
SN 7491 AN	FLJ 221
SN 7492 N	FLJ 171
SN 7493 N	FLJ 181
SN 7494 N	FLJ 231
SN 7495 N	FLJ 191
SN 7496 N	FLJ 261
SN 7497 N	FLJ 331

SN 74100 N	FLJ 301
SN 74104 N	FLJ 281
SN 74105 N	FLJ 291
SN 74107 N	FLJ 271
SN 74110 N	FLJ 341
SN 74111 N	FLJ 351
SN 74115 N	FLJ 521
SN 74118 N	FLJ 361
SN 74119 N	FLJ 371
SN 74120 N	FLY 181
SN 74121 N	FLK 101
SN 74122 N	FLK 111
SN 74123 N	FLK 121
SN 74132 N	FLH 601
SN 74141 N	FLL 101
SN 74142 N	FLL 151
SN 74143 N	FLL 171
SN 74144 N	FLL 171 T
SN 74145 N	FLL 111 T
SN 74150 N	FLY 111
SN 74151 N	FLY 121
SN 74153 N	FLY 131
SN 74154 N	FLY 141
SN 74155 N	FLY 151
SN 74156 N	FLY 161
SN 74157 N	FLY 171
SN 74160 N	FLJ 401
SN 74161 N	FLJ 411
SN 74162 N	FLJ 421
SN 74163 N	FLJ 431
SN 74164 N	FLJ 441
SN 74165 N	FLJ 451
SN 74166 N	FLJ 461
SN 74167 N	FLJ 471
SN 74170 N	FLQ 131
SN 74174 N	FLJ 531
SN 74175 N	FLJ 541
SN 74180 N	FLH 421
SN 74181 N	FLH 401
SN 74182 N	FLH 411
SN 74H183 N	FLH 451
SN 74184 N	FLH 561
SN 74185 AN	FLH 571
SN 74187 N	FLR 111
SN 74188 N	(FLR 121)
SN 74190 N	FLJ 201
SN 74191 N	FLJ 211
SN 74192 N	FLJ 241
SN 74193 N	FLJ 251
SN 74194 N	FLJ 551
SN 74195 N	FLJ 561
SN 74196 N	FLJ 381
SN 74197 N	FLJ 391
SN 74198 N	FLJ 311
SN 74199 N	FLJ 321
SN 4929 N	FLH 251
SN 4930 N	FLH 321
SN 4931 N	FLH 331
SN 4932 N	FLJ 481
SN 4934 N	FLH 461
SN 4935 N	FLH 471
SN 49700 N	FLL 131
SN 49700 NS1	FLL 131 T
SN 49701 N	FLL 141
SN 49701 NS1	FLL 141 T
SN 49702 N	FLJ 491
SN 49703 N	FLH 641
SN 49704 N	FLJ 501
SN 49705 N	FLJ 511
SN 49713 N	FLH 731
SN 49713 NS1	FLH 731 T
DM 8200 N	FLH 311
DM 8220 N	FLH 651
JM 5600 CDE	FLR 121
JM 5523	FLQ 141

Analog integrated circuits

MC 1709 CG	TAA 521
MC 1709 CL	TAA 521 A
MC 1709 G	TAA 522
MC 1741 CG	TBA 221
MC 1741 G	TBA 222
OM 200	TAA 131
SN 5510 L	TAA 722
SN 7510 L	TAA 721
SN 72709 L	TAA 521
SN 72709 N	TAA 521 A
SN 52709 L	TAA 522
SN 72741 L	TBA 221
SN 72741 N	TBA 221 A
SN 72741 P	TBA 221 B
SN 52741 L	TBA 222
TAA 263	TAA 141
TAA 293	TAA 151
TOA 2709 V	TAA 521
TOA 2709 P	TAA 521 A
TOA 1709 V	TAA 522
TOA 2741 V	TBA 221
TOA 1741 V	TBA 222
µA 709	TAA 522
µA 709 C	TAA 521
µA 741	TBA 222
µA 741 C	TBA 221
SN 76660	TBA 120

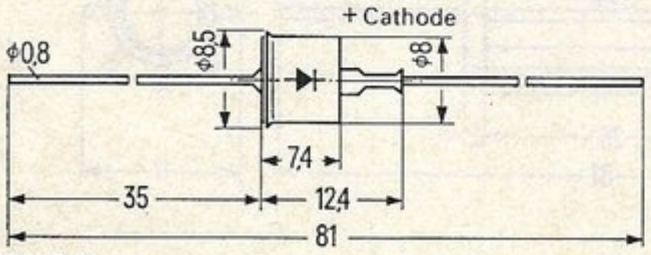
Manufacturer:

SN . . .	≙ Texas
AM . . .	≙ NSC
JM . . .	≙ Intersil
MC . . .	≙ Motorola
TOA . . .	≙ Transitron
µA . . .	≙ Fairchild

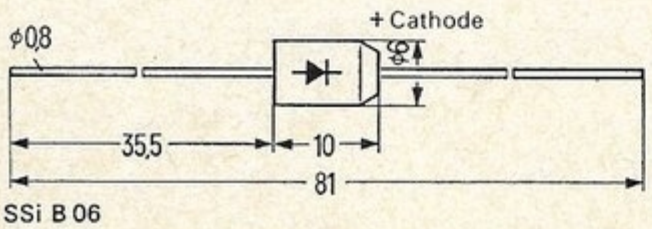
The Series SN 8400 N corresponds to the Siemens-series FL. 105.
The desired type designations may be derived from the series SN 7400 N, e. g. SN 8401 = FLH 205, etc.

Lead mounted diodes

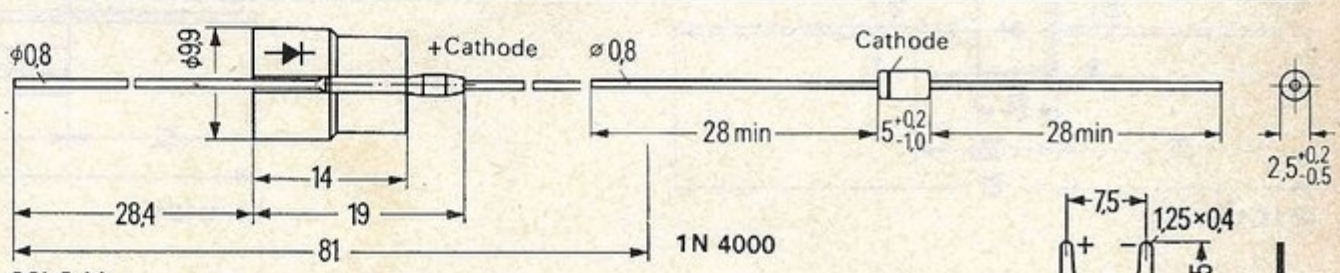
Type of diode	Ordering number	Maximum repetitive peak reverse voltage V	Non repetitive peak reverse voltage, duration ≦ 10 ms V	A. C. voltage recommanded at resistive load V	Maximum continuous mean forward current A	Maximum r. m. s. forward current A	Max. forward surge current ϑ_j = 25 °C A	I^2t-value ϑ_j = 25 °C A^2s	Operating temperature range °C	Internal thermal resistance junction to case K/W
1N4001	C66047-Z1306-A1	50	60	25	1	2	30	10	- 65°C	50
1N4002	C66047-Z1306-A2	100	120	50	ϑ_U 75°C					
1N4003	C66047-Z1306-A3	200	240	100					+ 175°C	
1N4004	C66047-Z1306-A4	400	480	200						
1N4005	C66047-Z1306-A5	600	720	300						
1N4006	C66047-Z1306-A6	800	1000	400						
1N4007	C66047-Z1306-A7	1000	1200	500						
SSi B 01 10	C 66 047-A 1003-A2	150	180	60	1,25	3,8	50	8,5	— 40 °C	81
SSi B 01 20	C 66 047-A 1003-A3	300	360	125	ϑ_U 45 °C				to	
SSi B 01 40	C 66 047-A 1003-A4	600	720	250					+ 180 °C	
SSi B 01 60	C 66 047-A 1003-A5	900	1100	380						
SSi B 01 80	C 66 047-A 1003-A6	1000	1250	500						
SSi B 05 10	C 66 047-A 1005-A2	150	180	60	0,95	2,8	50	8,5	— 25 °C	97
SSi B 05 20	C 66 047-A 1005-A3	300	360	125	ϑ_U 45 °C				to	
SSi B 05 40	C 66 047-A 1005-A4	600	720	250					+ 150 °C	
SSi B 05 80	C 66 047-A 1005-A5	1000	1250	500						
SSi B 06 10	C 66 047-A 1006-A2	150	180	60	0,95	2,8	50	8,5	— 25 °C	95
SSi B 06 20	C 66 047-A 1006-A3	300	360	125	ϑ_U 45 °C				to	
SSi B 06 40	C 66 047-A 1006-A4	600	720	250					+ 160 °C	
SSi B 06 80	C 66 047-A 1006-A5	1000	1250	500						
SSi C 08 10	C 66 047-A 1009-A2	150	180	60	1,6	7,5	100	34	— 40 °C	79
SSi C 08 20	C 66 047-A 1009-A3	300	360	125	ϑ_U 45 °C				to	
SSi C 08 40	C 66 047-A 1009-A4	600	720	250					+ 180 °C	
SSi C 08 60	C 66 047-A 1009-A5	900	1100	380						
SSi C 08 80	C 66 047-A 1009-A6	1000	1250	500						
SSi C 11 20	C 66 047-A 1010-A2	300	360	125	1,9	7,5	100	34	— 40 °C	64
SSi C 11 40	C 66 047-A 1010-A3	600	720	250	ϑ_U 45 °C				to	
SSi C 11 60	C 66 047-A 1010-A4	900	1100	380					+ 180 °C	
SSi C 11 80	C 66 047-A 1010-A5	1000	1250	500						
SSi C 12 20	C 66 047-A 1011-A2	300	360	125	3,0	7,5	100	34	— 40 °C	37,5
SSi C 12 40	C 66 047-A 1011-A3	600	720	250	ϑ_U 45 °C				to	
SSi C 12 60	C 66 047-A 1011-A4	900	1100	380					+ 180 °C	
SSi C 12 80	C 66 047-A 1011-A5	1000	1250	500						
SSi C 17 10	C 66 047-A 1015-A2	150	180	60	1,2	3,8	100	34	— 25 °C	97
SSi C 17 20	C 66 047-A 1015-A3	300	360	125	ϑ_U 45 °C				to	
SSi C 17 40	C 66 047-A 1015-A4	600	720	250					+ 150 °C	
SSi C 17 80	C 66 047-A 1015-A5	1000	1250	500						



SSi B 01
SSi C 08

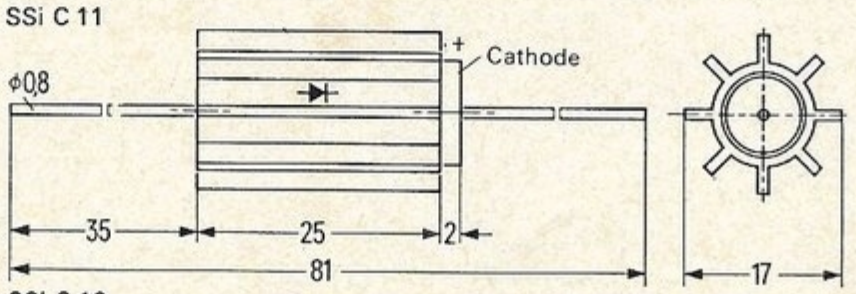


SSi B 06

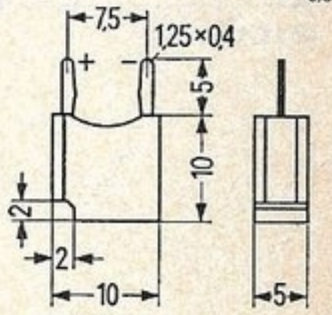


SSi C 11

1N 4000



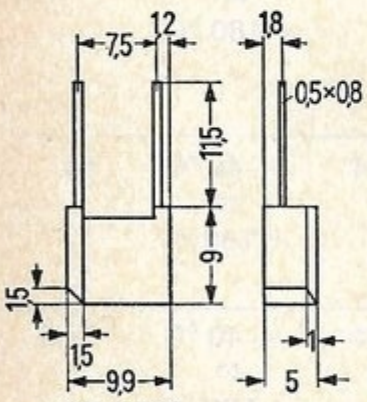
SSi C 12



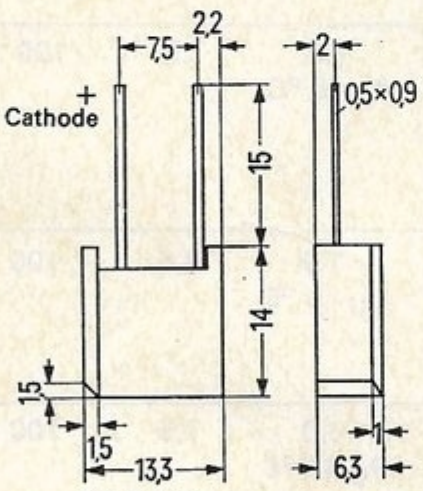
SSi B 05
SSi C 17

Lead mounted diodes — Controlled Avalanche

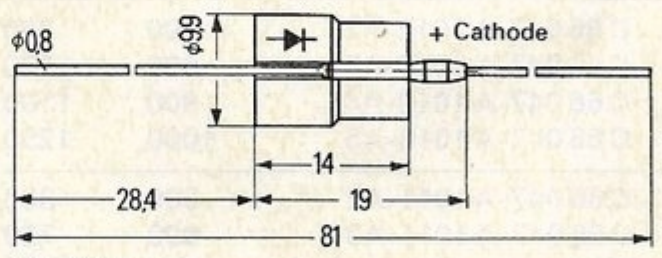
Type of diode	Ordering number	Maximum repetitive peak reverse voltage V	Breakdown voltage at ϑ_j = 25 °C V	A. C. voltage recommanded for resistive load V	Maximum continuous mean forward current ϑ_U = 45 °C A	Maximum r. m. s. forward current A	Max. forward surge current ϑ_j = 25 °C A	I^2t-value ϑ_j = 25 °C A^2s	Operating temperature range °C	Internal thermal resistance junction to case K/W
SSi B 98 60A	C 66 047-Z 1301-A1	1100	1200	380	2	3,8	60	7	— 40 °C to + 150 °C	80
SSi B 98 80A	C 66 047-Z 1301-A2	1400	1550	500						
SSi B 98 90A	C 66 047-Z 1301-A3	1600	1750	570						
SSi C 15 60A	C 66 047-A 1013-A2	900	1000	380	1,3	7,5	75	22	— 40 °C to + 150 °C	84
SSi C 15 80A	C 66 047-A 1013-A3	1200	1350	500						
SSi C 16 60A	C 66 047-A 1014-A2	900	1000	380	1,5	7,5	75	22	— 40 °C to + 150 °C	68
SSi C 16 80A	C 66 047-A 1014-A3	1200	1350	500						
SSi C 19 60A	C 66 047-A 1016-A2	900	1000	380	2,4	7,5	75	22	— 40 °C to + 150 °C	38
SSi C 19 80A	C 66 047-A 1016-A3	1200	1350	500						
SSi C 99 60A	C 66 047-Z 1302-A1	1100	1200	380	1,7	4,8	75	16	— 40 °C to + 150 °C	54
SSi C 99 80A	C 66 047-Z 1302-A2	1400	1550	500						
SSi C 99 90A	C 66 047-Z 1302-A3	1600	1750	570						



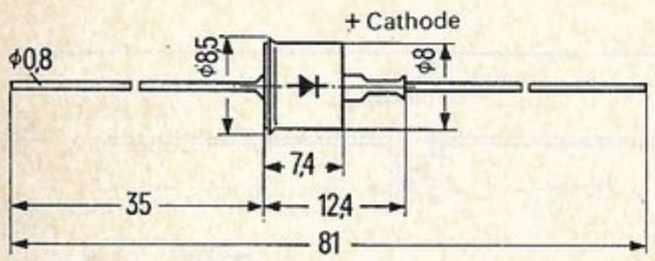
SSi B 98A



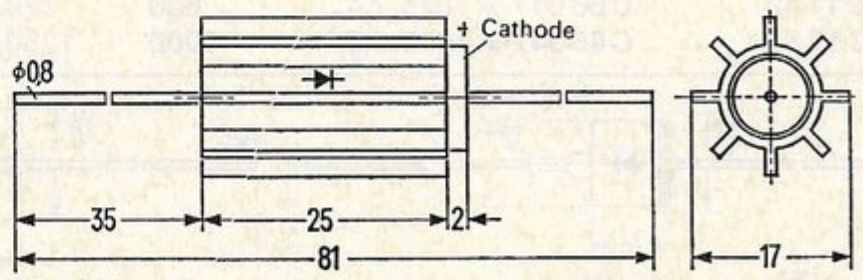
SSi C 99A



SSi C 16A



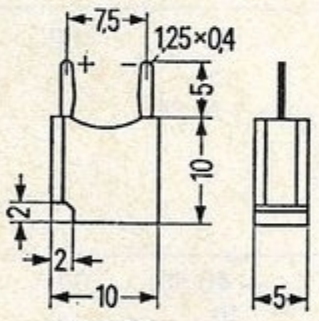
SSi C 15A



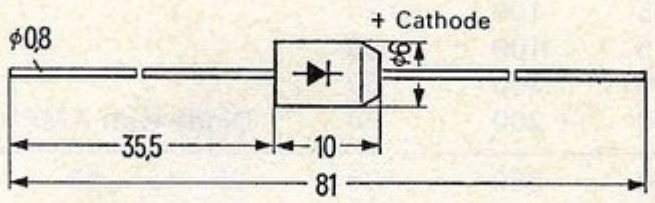
SSi C 19A

Fast recovery diodes

Type of diode	Ordering number	Maximum repetitive peak reverse voltage	Maximum d. c. current at ϑ_u = 45 °C	Maximum reverse current Reverse current (peak value) at V_{RRM} and ϑ_{jmax}	Forward voltage drop V_F at I_F		Reverse recovery stored charged from I_F = 0,1 A to U_R = 60 V ϑ_j = 25 °C	Internal thermal resistance junction to ambient air
		V	A	mA	V	A	nC	K/W
SSi B 2510 B	C 66047-A 1028-A 2	150	0,17	0,8	2,8	0,6	100	92
SSi B 2520 B	C 66047-A 1028-A 3	300						
SSi B 2530 B	C 66047-A 1028-A 6	450						
SSi B 2540 B	C 66047-A 1028-A 4	600						
SSi B 2560 B	C 66047-A 1028-A 7	900						
SSi B 2580 B	C 66047-A 1028-A 5	1000						
SSi B 2510 C	C 66047-A 1028-A 8	150	0,28	0,8	1,7	0,6	100	92
SSi B 2520 C	C 66047-A 1028-A 9	300						
SSi B 2530 C	C 66047-A 1028-A 10	450						
SSi B 2540 C	C 66047-A 1028-A 11	600						
SSi B 2560 C	C 66047-A 1028-A 12	900						
SSi B 2580 C	C 66047-A 1028-A 13	1000						
SSi B 3010	C 66047-A 1033-A 19	150	0,65	2	1,5	2	50	95
SSi B 3020	C 66047-A 1033-A 21	300						
SSi B 3030	C 66047-A 1033-A 23	450						
SSi B 3040	C 66047-A 1033-A 24	600						
SSi C 2610	C 66047-A 1044-A 3	150	0,8	3	1,5	6	50	87
SSi C 2620	C 66047-A 1044-A 5	300						
SSi C 2630	C 66047-A 1044-A 6	450						
SSi C 2640	C 66047-A 1044-A 7	600						



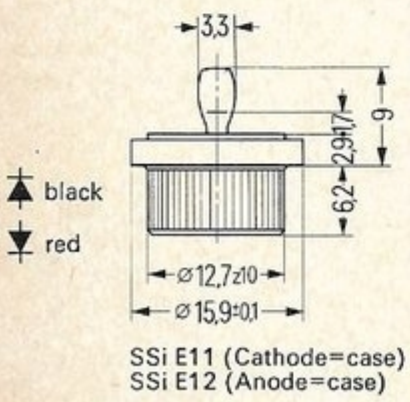
SSi B 25 . .
SSi C 26 . .



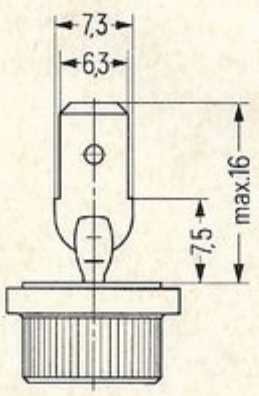
SSi B 30 . .

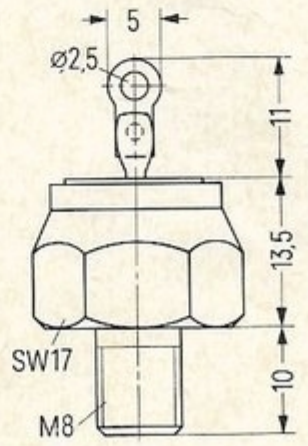
Pressfit diodes

Type of diode	Ordering number	Maximum repetitive peak reverse voltage V	Non repetitive peak reverse voltage, duration ≤ 10 ms V	A. C. voltage recommanded for resistive load V	Maximum continuous mean forward current A	Maximum r. m. s. forward current A	Max. forward surge current ϑ_j = 25 °C A	I²t-value ϑ_j = 25 °C A²s	Operating temperature range °C	Internal thermal resistance junction to case K/W
SSi E 11 02	C 66 047-A 1020-A4	30	40	12	25	48	400	620	— 40 °C	0,8
SSi E 12 02	C 66 047-A 1020-A13	30	40	12	ϑ_G 150 °C				to	
SSi E 11 05	C 66 047-A 1020-A6	75	100	30					+ 175 °C	
SSi E 12 05	C 66 047-A 1020-A15	75	100	30						
SSi E 11 10	C 66 047-A 1020-A7	150	200	60						
SSi E 12 10	C 66 047-A 1020-A16	150	200	60						
SSi E 11 20	C 66 047-A 1020-A 8	300	360	125	25	48	350	450	— 40 °C	0,8
SSi E 12 20	C 66 047-A 1020-A17	300	360	125	ϑ_G 150 °C				to	
SSi E 11 30	C 66 047-A 1020-A9	450	540	190					+ 175 °C	
SSi E 12 30	C 66 047-A 1020-A18	450	540	190						
SSi E 11 40	C 66 047-A 1020-A10	600	720	250						
SSi E 12 40	C 66 047-A 1020-A19	600	720	250						
SSi E 13 05	C 66 047-A 1021-A2	75	100	30	25	48	350	450	— 40 °C	1,3
SSi E 14 05	C 66 047-A 1021-A8	75	100	30	ϑ_G 135 °C				to	
SSi E 13 10	C 66 047-A 1021-A3	150	200	60					+ 175 °C	
SSi E 14 10	C 66 047-A 1021-A9	150	200	60						
SSi E 13 20	C 66 047-A 1021-A4	300	360	125						
SSi E 14 20	C 66 047-A 1021-A10	300	360	125						
SSi E 13 30	C 66 047-A 1021-A5	450	540	190						
SSi E 14 30	C 66 047-A 1021-A11	450	540	190						
SSi E 13 40	C 66 047-A 1021-A6	600	720	250						
SSi E 14 40	C 66 047-A 1021-A12	600	720	250	Diode with screw adapter					
SSi E 11 02	C 66 047-A 1020-A261	30	40	12	25	48	400	620	— 40 °C	0,8
SSi E 12 02	C 66 047-A 1020-A262	30	40	12	ϑ_G 150 °C				to	
SSi E 11 05	C 66 047-A 1020-A246	75	100	30					+ 175 °C	
SSi E 12 05	C 66 047-A 1020-A247	75	100	30						
SSi E 11 10	C 66 047-A 1020-A248	150	200	60						
SSi E 12 10	C 66 047-A 1020-A249	150	200	60	Diode with AMP-connection					
SSi E 11 20	C 66 047-A 1020-A252	300	360	125	25	48	350	450	— 40 °C	0,8
SSi E 12 20	C 66 047-A 1020-A253	300	360	125	ϑ_G 150 °C				to	
SSi E 11 30	C 66 047-A 1020-A254	450	540	190					+ 175 °C	
SSi E 12 30	C 66 047-A 1020-A255	450	540	190						
SSi E 11 40	C 66 047-A 1020-A256	600	720	250						
SSi E 12 40	C 66 047-A 1020-A257	600	720	250	Diode with AMP-connection					



SSi E11 (Cathode=case)
SSi E12 (Anode=case)

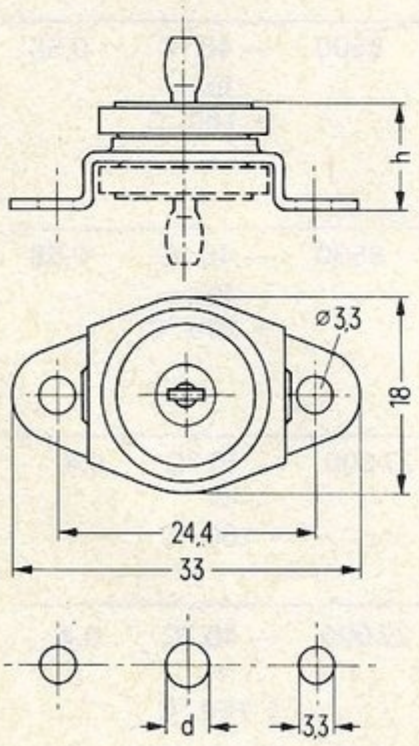




SSi E13 (Cathode=case)
SSi E14 (Anode=case)

Press-fit diodes

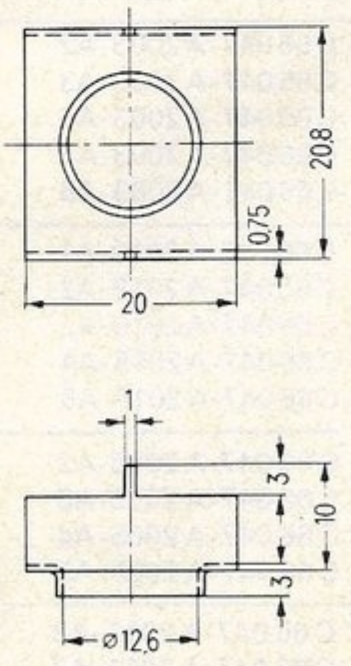
Type of diode	Ordering number	Maximum repetitive peak reverse voltage V	Non repetitive peak reverse voltage, duration ≦ 10 ms V	A. C. voltage recommanded at resistive load V	Maximum continuous mean forward current A	Maximum r. m. s. forward current A	Max. forward surge current ϑ_j = 25 °C A	I^2t-value ϑ_j = 25 °C A^2s	Operating temperature range °C	Internal thermal resistance junction to case K/W
SSiE1100-E2	C66117-A5006-A130									
SSiE1200-E2	C66117-A5006-A131									
SSiE1102-E2	C66117-A5006-A118									
SSiE1202-E2	C66117-A5006-A119									
SSiE1105-E2	C66117-A5006-A120									
SSiE1205-E2	C66117-A5006-A121									
SSiE1110-E2	C66117-A5006-A122									
SSiE1210-E2	C66117-A5006-A123						Data on request			
SSiE1120-E2	C66117-A5006-A128									
SSiE1220-E2	C66117-A5006-A129									
SSiE1130-E2	C66117-A5006-A124									
SSiE1230-E2	C66117-A5006-A125									
SSiE1140-E2	C66117-A5006-A126									
SSiE1240-E2	C66117-A5006-A127									
TO-66-Adapter lose	C66117-A5000-C191									
SSiE1100-E1	C66117-A5006-A106									
SSiE1200-E1	C66117-A5006-A114									
SSiE1102-E1	C66117-A5006-A107									
SSiE1202-E1	C66117-A5006-A115									
SSiE1105-E1	C66117-A5006-A101									
SSiE1205-E1	C66117-A5006-A109									
SSiE1110-E1	C66117-A5006-A102									
SSiE1210-E1	C66117-A5006-A110						Data on request			
SSiE1120-E1	C66117-A5006-A103									
SSiE1220-E1	C66117-A5006-A111									
SSiE1130-E1	C66117-A5006-A104									
SSiE1230-E1	C66117-A5006-A112									
SSiE1140-E1	C66117-A5006-A105									
SSiE1240-E1	C66117-A5006-A113									
Kühlblech E1 lose	C66117-A5000-C47									



E 2

——— Press-in position A

– – – – – Press-in position B



E 1

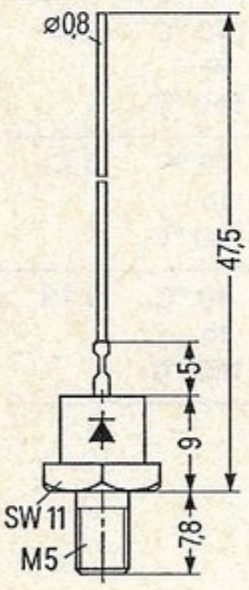
Stud mounted diodes

Type of diode	Ordering number	Maximum repetitive peak reverse voltage V	Non repetitive peak reverse voltage, duration ≤ 10 ms V	A. C. voltage recommanded for resistive load V	Maximum continuous mean forward current A	Maximum r. m. s. forward current A	Max. forward surge current ϑ_j = 25 °C A	I^2t-value ϑ_j = 25 °C A^2s	Operating temperature range °C	Internal thermal resistance junction to case K/W
SSi C 13 20	C 66 047-A 1012-A2	300	360	125	4,0	7,5	100	34	— 40 °C	6
SSi C 13 40	C 66 047-A 1012-A3	600	720	250	ϑ_G 120 °C				to	
SSi C 13 60	C 66 047-A 1012-A4	900	1100	380					+ 150 °C	
SSi C 13 80	C 66 047-A 1012-A5	1000	1250	500						
SSi D 04 40	C 66 047-A 1018-A2	650	750	250	10	19	150	75	— 40 °C	4,5
SSi D 04 60	C 66 047-A 1018-A3	1000	1100	380	ϑ_G 103 °C				to	
SSi D 04 80	C 66 047-A 1018-A4	1400	1500	500					+ 160 °C	
SSi D 04 100	C 66 047-A 1018-A5	1700	1900	650						
SSi E 13 05	C 66 047-A 1021-A2	75	100	30	25	48	350	450	— 40 °C	1,3
SSi E 14 05	C 66 047-A 1021-A8	75	100	30	ϑ_G 135 °C				to	
SSi E 13 10	C 66 047-A 1021-A3	150	200	60					+ 175 °C	
SSi E 14 10	C 66 047-A 1021-A9	150	200	60						
SSi E 13 20	C 66 047-A 1021-A4	300	360	125						
SSi E 14 20	C 66 047-A 1021-A10	300	360	125						
SSi E 13 30	C 66 047-A 1021-A5	450	540	190						
SSi E 14 30	C 66 047-A 1021-A11	450	540	190						
SSi E 13 40	C 66 047-A 1021-A6	600	720	250						
SSi E 14 40	C 66 047-A 1021-A12	600	720	250						
SSi E 20 40	C 66 047-A 1024-A3	650	750	250	20	38	250	225	— 40 °C	2,5
SSi E 20 60	C 66 047-A 1024-A4	1000	1100	380	ϑ_G 95 °C				to	
SSi E 20 80	C 66 047-A 1024-A5	1400	1500	500					+160 °C	
SSi E 20 100	C 66 047-A 1024-A6	1700	1900	650						
SSi F 20 20	C 66 047-A 2002-A2	300	360	125	50	95	800	2400	— 40 °C	0,8
SSi F 20 40	C 66 047-A 2002-A3	650	750	250	ϑ_G 111 °C				to	
SSi F 20 60	C 66 047-A 2002-A4	1000	1100	380					+ 160 °C	
SSi F 20 80	C 66 047-A 2002-A5	1400	1500	500						
SSi F 23 20	C 66 047-A 2001-A2	300	360	125	50	95	800	2400	— 40 °C	0,8
SSi F 23 40	C 66 047-A 2001-A3	650	750	250	ϑ_G 111 °C				to	
SSi F 23 60	C 66 047-A 2001-A4	1000	1100	380					+ 160 °C	
SSi F 23 80	C 66 047-A 2001-A5	1400	1500	500						
SSi G 02 20	C 66 047-A 2003-A2	300	360	125	70	135	1300	8500	— 40 °C	0,55
SSi G 02 40	C 66 047-A 2003-A3	650	750	250	ϑ_G 106 °C				to	
SSi G 02 60	C 66 047-A 2003-A4	1000	1100	380					+ 160 °C	
SSi G 02 80	C 66 047-A 2003-A5	1400	1500	500						
SSi G 02 100*)	C 66 047-A 2003-A6	1700	1900	650						
SSi G 23 20	C 66 047-A 2018-A1	300	360	125	70	135	1300	8500	— 40 °C	0,55
SSi G 23 40	C 66 047-A 2018-A2	650	750	250	ϑ_G 106 °C				to	
SSi G 23 60	C 66 047-A 2018-A3	1000	1100	380					+ 160 °C	
SSi G 23 80	C 66 047-A 2018-A4	1400	1500	500						
SSi G 23 100*)	C 66 047-A 2018-A5	1700	1900	650						
SSi K 21 20	C 66 047-A 2005-A2	300	360	125	160	310	2700	27 000	— 40 °C	0,4
SSi K 21 40	C 66 047-A 2005-A3	650	750	250	ϑ_G 88 °C				to	
SSi K 21 60	C 66 047-A 2005-A4	1000	1100	380					+ 160 °C	
SSi K 21 80	C 66 047-A 2005-A5	1400	1500	500						
SSi K 23 20	C 66 047-A 2011-A2	300	360	125	160	310	2700	27 000	— 40 °C	0,4
SSi K 23 40	C 66 047-A 2011-A3	650	750	250	ϑ_G 88 °C				to	
SSi K 23 60	C 66 047-A 2011-A4	1000	1100	380					+ 160 °C	
SSi K 23 80	C 66 047-A 2011-A5	1400	1500	500						

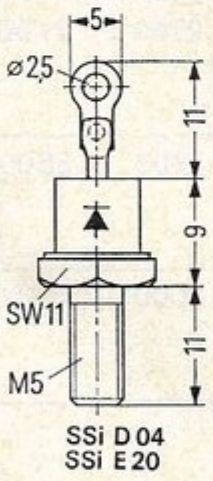
*) Delivery on request

Stud mounted diodes

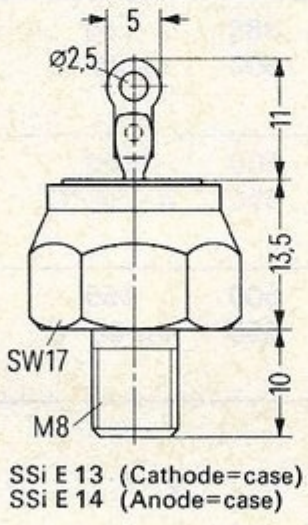
Type of diode	Ordering number	Maximum repetitive peak reverse voltage V	Non repetitive peak reverse voltage, duration ≦ 10 ms V	A. C. voltage recommanded for resistive load V	Maximum continuous mean forward current A	Maximum r. m. s. forward current A	Max. forward surge current ϑ_j = 25 °C A	I^2t-value ϑ_j = 25 °C A^2s	Operating temperature range °C	Internal thermal resistance junction to case K/W
SSi L 20 60	C 66 047-A 2015-A4	1000	1100	380	250	480	4800	85 000	— 40 °C	0,22
SSi L 20 80	C 66 047-A 2015-A5	1400	1500	500	ϑ_G 94 °C				to	
SSi L 20 100	C 66 047-A 2015-A6	1700	1900	650					+ 160 °C	
SSi L 20 120	C 66 047-A 2015-A7	2000	2250	750						
SSi L 23 60	C 66 047-A 2016-A4	1000	1100	380	250	480	4800	85 000	— 40 °C	0,22
SSi L 23 80	C 66 047-A 2016-A5	1400	1500	500	ϑ_G 94 °C				to	
SSi L 23 100	C 66 047-A 2016-A6	1700	1900	650					+ 160 °C	
SSi L 23 120	C 66 047-A 2016-A7	2000	2250	750						
SSi N 20 60	C 66 047-A 2012-A4	1000	1100	380	450	850	8000	320 000	— 40 °C	0,13
SSi N 20 80	C 66 047-A 2012-A5	1400	1500	500	ϑ_G 88 °C				to	
SSi N 20 100	C 66 047-A 2012-A6	1700	1900	650					+ 160 °C	
SSi N 20 120	C 66 047-A 2012-A7	2000	2250	750						
SSi N23 60	C 66 047-A 2019-A2	1000	1100	380	450	850	8000	320 000	— 40 °C	0,13
SSi N23 80	C 66 047-A 2019-A3	1400	1500	500	ϑ_G 88° C				to	
SSi N23 100	C 66 047-A 2019-A4	1700	1900	650					+ 160 °C	
SSi N23 120	C 66 047-A 2010-A5	2000	2250	750						
SSi P 30 120	C 66 047-A 2017-A3	2200	2200		450	850	12000	720 000	— 40 °C	0,09
SSi P 30 135	C 66 047-A 2017-A4	2500	2500		ϑ_G 107 °C				to	
SSi P 30 150	C 66 047-A 2017-A5	2800	2800						+ 160 °C	



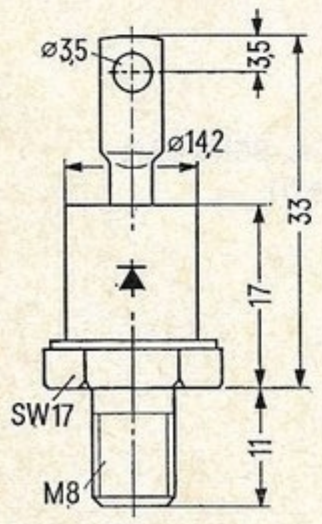
SSi C 13



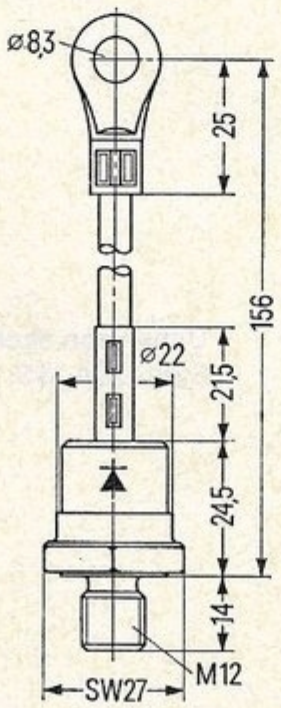
SSi D 04
SSi E 20



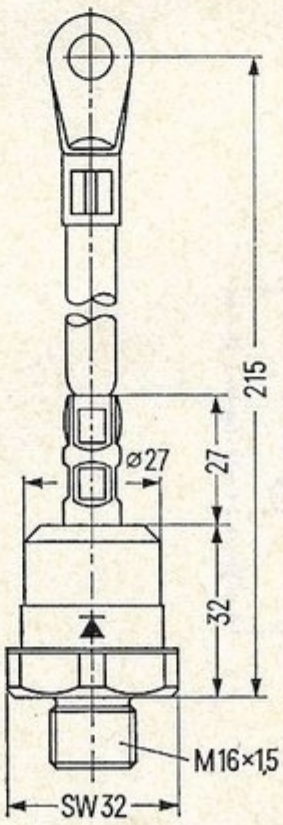
SSi E 13 (Cathode=case)
SSi E 14 (Anode=case)



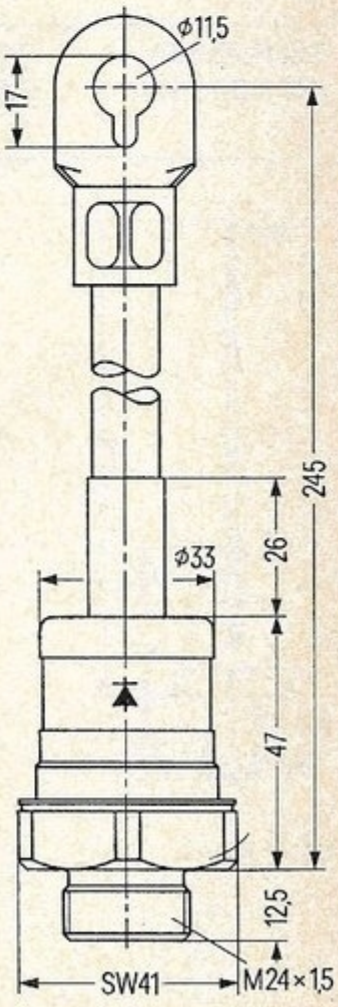
SSi F 20, F 20A
SSi G 02, G 02A (Anode on case)
SSi F 23, SSi G 23 (Cathode on case)



SSi K 21, SSi K 21A (Anode on case)
SSi K 23 (Cathode on case)



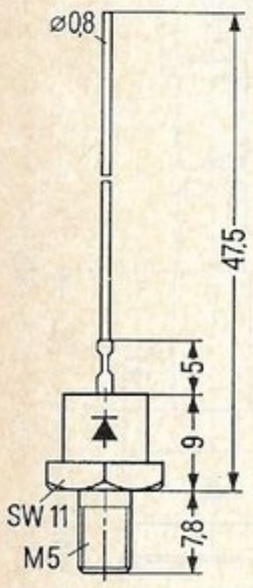
SSi L 20, SSi L 20A (Anode on case)
SSi L 23 (Cathode on case)



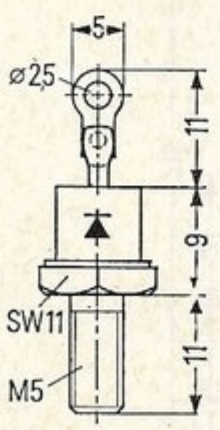
SSi N 20, SSi N 20A
(Anode on case)
SSi N 23 (Cathode on case)

Stud mounted diodes — Controlled Avalanche

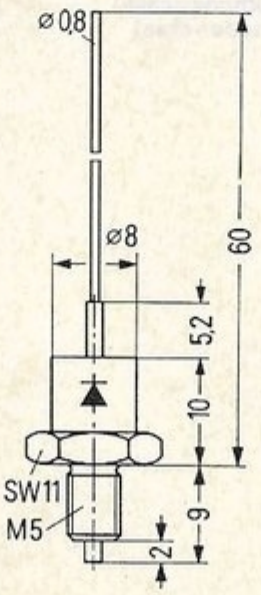
Type of diode	Ordering number	Maximum repetitive peak reverse voltage V	Breakdown voltage at ϑ_j = 25 °C V	A. C. voltage recommanded for resistive load V	Maximum continuous mean forward current A	Maximum r. m. s. forward current A	Max. forward surge current ϑ_j = 25 °C A	I^2t-value ϑ_j = 25 °C A^2s	Operating temperature range °C	Internal thermal resistance junction to case K/W
SSi C 20 60A	C 66 047-A 1017-A2	900	1000	380	4	7,5	75	22	— 40 °C to + 150 °C	6
SSi C 20 80A	C 66 047-A 1017-A3	1200	1350	500	ϑ_G 117 °C					
SSi D 04 60A	C 66 047-A 1018-A7	1000	1100	380	10	19	150	75	— 40 °C to + 160 °C	4,5
SSi D 04 80A	C 66 047-A 1018-A8	1400	1500	500	ϑ_G 103 °C					
SSi D 04 100A	C 66 047-A 1018-A9	1700	1900	650						
SSi D 99 60A	C 66 047-Z 1303-A1	1000	1200	380	5	9,5	180	100	— 40 °C to + 160 °C	3,3
SSi D 99 80A	C 66 047-Z 1303-A2	1400	1550	500	ϑ_G 130 °C					
SSi D 99 90A	C 66 047-Z 1303-A3	1600	1750	570						
SSi E 20 60A	C 66 047-A 1024-A7	1000	1100	380	20	38	250	225	— 40 °C to + 160 °C	2,5
SSi E 20 80A	C 66 047-A 1024-A8	1400	1500	500	ϑ_G 95 °C					
SSi E 20 100A	C 66 047-A 1024-A9	1700	1900	650						
SSi F 20 60A	C 66 047-A 2002-A7	1000	1100	380	50	95	800	2400	— 40 °C to + 160 °C	0,8
SSi F 20 80A	C 66 047-A 2002-A8	1400	1500	500	ϑ_G 111 °C					
SSi G 02 60A	C 66 047-A 2003-A7	1100	1200	380	70	135	1300	8500	— 40 °C to + 160 °C	0,55
SSi G 02 80A	C 66 047-A 2003-A8	1500	1600	500	ϑ_G 106 °C					
SSi K 21 60A	C 66 047-A 2005-A6	1000	1100	380	160	310	2700	27 000	— 40 °C to + 160 °C	0,4
SSi K 21 80A	C 66 047-A 2005-A7	1400	1500	500	ϑ_G 88 °C					
SSi L 20 80A	C 66 047-A 2015-A8	1400	1500	500	250	480	4800	85 000	— 40 °C to + 160 °C	0,22
SSi L 20 100A	C 66 047-A 2015-A9	1700	1900	650	ϑ_G 94 °C					
SSi N 20 80A	C 66 047-A 2012-A8	1400	1500	500	450	850	8000	320 000	— 40 °C to + 160 °C	0,13
SSi N 20 100A	C 66 047-A 2012-A9	1700	1900	650	ϑ_G 88 °C					



SSi C 20A



SSi D 04A
SSi E 20A



SSi D 99A

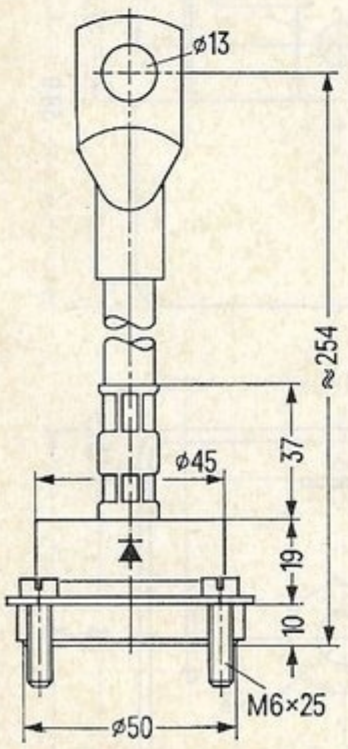
Dimension sketch for SSi F 20A, SSi G 02A, SSi L 20A, SSi N 20A on page 91

Diodes with flat base

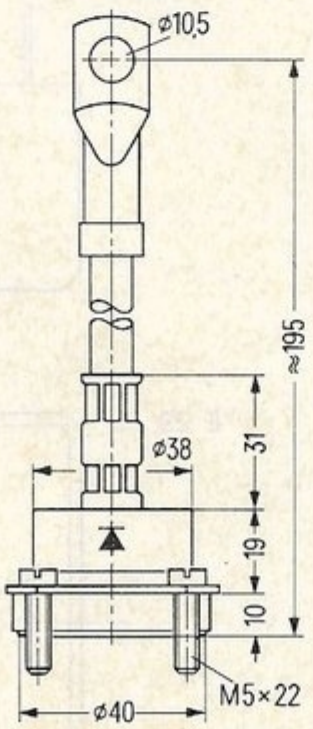
Type of diode	Ordering number	Maximum repetitive peak reverse voltage V	Non repetitive peak reverse voltage, duration ≤ 10 ms V	A. C. voltage recommanded for resistive load V	Maximum continuous mean forward current A	Maximum r. m. s. forward current A	Max. forward surge current ϑ_j = 25 °C A	I^2t-value ϑ_j = 25 °C A^2s	Operating temperature range °C	Internal thermal resistance junction to case K/W
SSi L 98 20	C 66 047-Z 2301-A1	400	400	125	320	500	6100	$15{,}3 \cdot 10^4$	— 55 °C	0,12
SSi L 98 40	C 66 047-Z 2301-A2	700	700	250	ϑ_G 96 °C				to	
SSi L 98 60	C 66 047-Z 2301-A3	1100	1100	380					+ 150 °C	
SSi L 98 80	C 66 047-Z 2301-A4	1400	1400	500						
SSi L 98 100	C 66 047-Z 2301-A5	1800	1800	650						
SSi L 99 20	C 66 047-Z 2300-A1	400	400	125	250	400	6100	$15{,}3 \cdot 10^4$	— 55 °C	0,16
SSi L 99 40	C 66 047-Z 2300-A2	700	700	250	ϑ_G 100 °C				to	
SSi L 99 60	C 66 047-Z 2300-A3	1100	1100	380					+ 150 °C	
SSi L 99 80	C 66 047-Z 2300-A4	1400	1400	500						
SSi L 99 100	C 66 047-Z 2300-A5	1800	1800	650						
SSi N 98 100	C 66 047-Z 2303-A1	1800	1800	650	450	700	8500	$30 \cdot 10^4$	— 55 °C	0,09
SSi N 98 110	C 66 047-Z 2303-A2	2000	2000	700	ϑ_G 90 °C				to	
SSi N 98 120	C 66 047-Z 2303-A3	2200	2200	750					+ 150 °C	
SSi N 98 135	C 66 047-Z 2303-A4	2400	2400	850						
SSi N 98 145	C 66 047-Z 2303-A5	2600	2600	900						
SSi N 98 155	C 66 047-Z 2303-A6	2800	2800	950						
SSi N 99 20	C 66 047-Z 2302-A1	400	400	125	450	700	11 200	$52{,}5 \cdot 10^4$	— 55 °C	0,09
SSi N 99 40	C 66 047-Z 2302-A2	700	700	250	ϑ_G 100 °C				to	
SSi N 99 60	C 66 047-Z 2302-A3	1100	1100	380					+ 150 °C	
SSi N 99 80	C 66 047-Z 2302-A4	1400	1400	500						

Disc type diodes

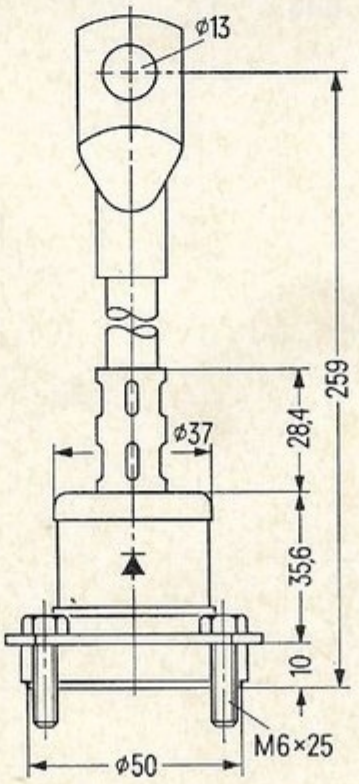
SSi K 04 20	C 66 047-A 2004-A2	300	360	125	215	410	2700	27 000	— 40 °C	0,125
SSi K 04 40	C 66 047-A 2004-A3	650	750	250	ϑ_G 112 °C				to	
SSi K 04 60	C 66 047-A 2004-A4	1000	1100	380					+ 150 °C	
SSi K 04 80	C 66 047-A 2004-A5	1400	1500	500						
SSi P 01 60	C 66 047-A 2013-A4	1000	1100	380	1000	1900	18 000	1 300 000	— 30 °C	0,045
SSi P 01 80	C 66 047-A 2013-A5	1400	1500	500	ϑ_G 90 °C				to	
SSi P 01 100	C 66 047-A 2013-A6	1700	1900	650					+ 150 °C	



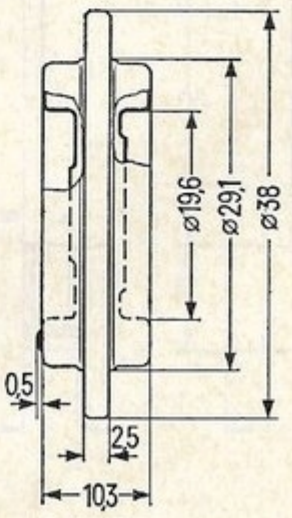
SSi L 98



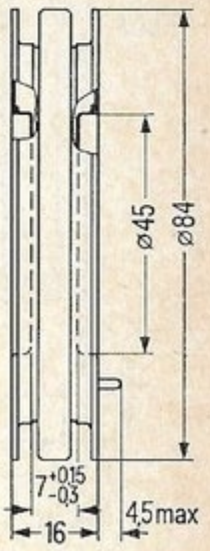
SSi L 99



SSi N 98
SSi N 99



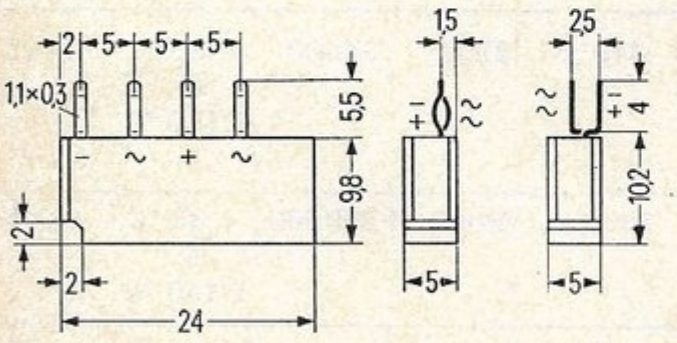
SSi K 04



SSi P 01

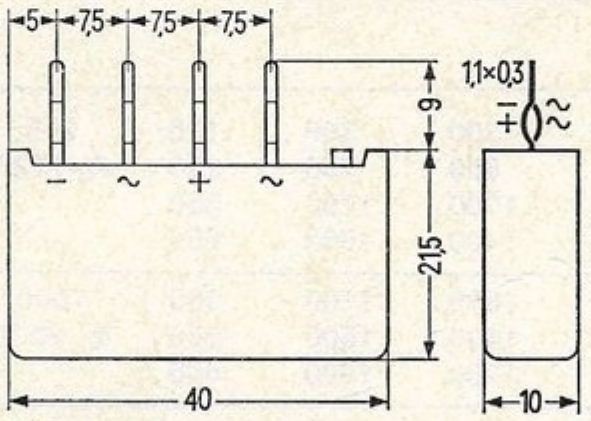
Silicon rectifier sets hermetically sealed

Type	Ordering number	Connection	Repetitive peak reverse voltage V	A. C. voltage recommended V	Max. continous mean forward current at ambient temperature ϑ_u = 45 °C: Resistitive loading, free installation A	Resistitive loading, chassis installation A	capacitive loading, free installation A	capacitive loading, chassis installation A	Surge forward current ϑ_j = 25 °C A	Surge forward current ϑ_j = 150 °C A
B 1210-B 60 C 1000/ 700	C 66 067-A 1706-A2	B	150	60	0,85	1,3	0,7	1	50	40
B 1220-B 125 C 1000/ 700	C 66 067-A 1706-A3	—~ +~	300	125						
B 1240-B 250 C 1000/ 700	C 66 067-A 1706-A4		600	250						
B 1280-B 500 C 1000/ 700	C 66 067-A 1706-A5		1000	500						
B 1310-B 60 C 2000/1400	C 66 067-A 1708-A2	B	150	60	1,9	2,8	1,4	2,0	50	40
B 1320-B 125 C 2000/1400	C 66 067-A 1708-A3	—~ +~	300	125						
B 1340-B 250 C 2000/1400	C 66 067-A 1708-A4		600	250						
B 1380-B 500 C 2000/1400	C 66 067-A 1708-A5		1000	500						
B 1906-B 40 C 1500/1000	C 66 067-A 1707-A2	B	100	40	1,2	1,8	1,0	1,5	50	40
B 1912-B 80 C 1500/1000	C 66 067-A 1707-A3	—~ +~	190	80						
B 2806-B 40 C 900/ 600	C 66 067-A 1707-A10	B	100	40	0,72	1,1	0,6	0,9	50	40
B 2812-B 80 C 900/ 600	C 66 067-A 1707-A11	—~ +~	190	80						
B 2820-B 125 C 900/ 600	C 66 067-A 1706-A11		300	125						
B 2840-B 250 C 900/ 600	C 66 067-A 1706-A12		600	250						
B 2880-B 500 C 900/ 600	C 66 067-A 1706-A13		1000	500						
B 3106-B 40 C 1500/1000	C 66067-A 1743-A2	B	Version with 25 mm leads							
B 3112-B 80 C 1500/1000	C 66067-A 1743-A3	—~ +~	Data as for B 19..							

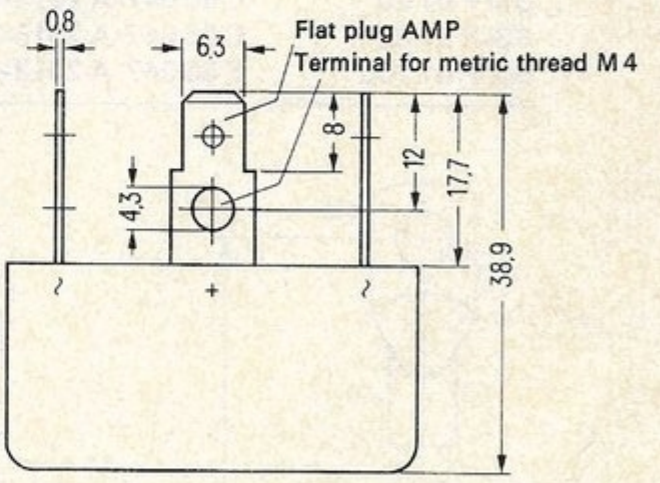


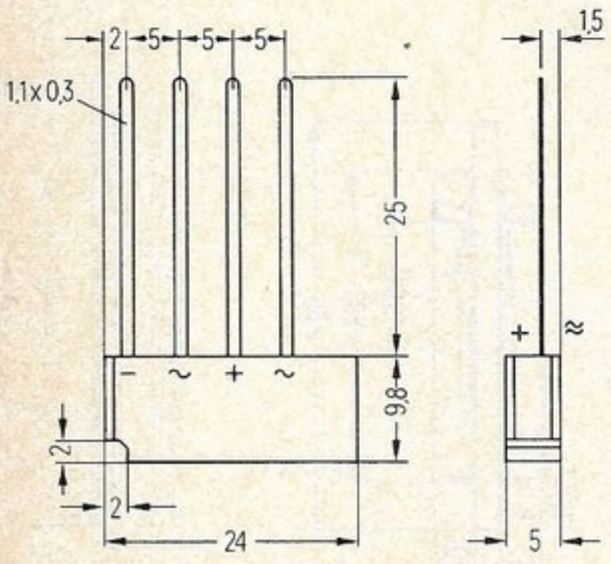
B 12 . .
B 19 . .
B 28 . .

B 1280



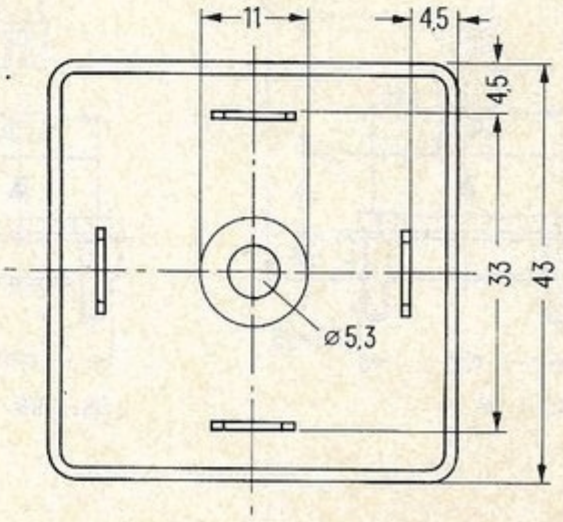
B 13 . .





B 31 . .

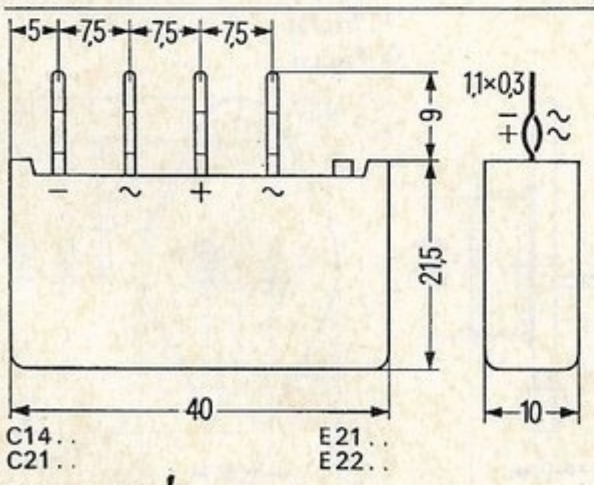
E 29 . .

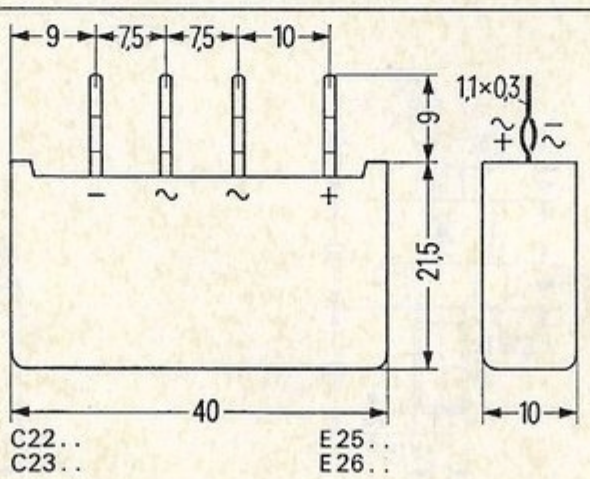


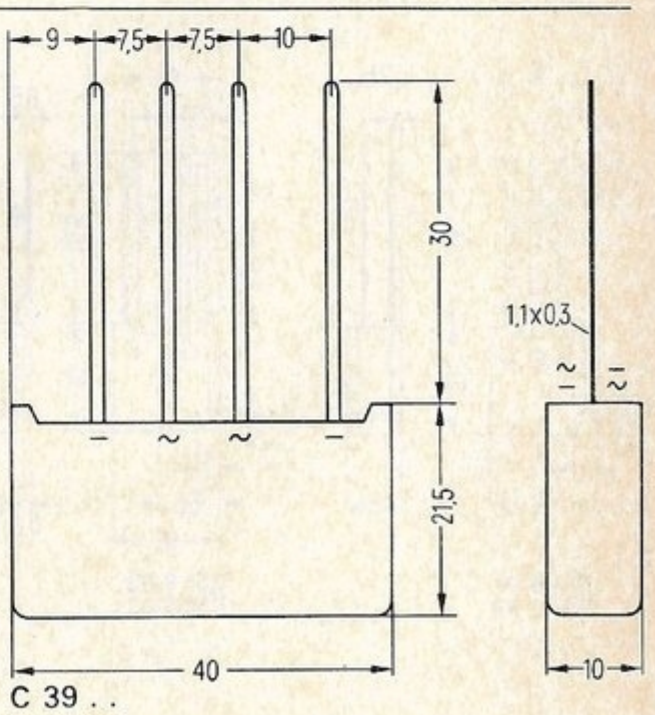
Silicon rectifier sets hermetically sealed

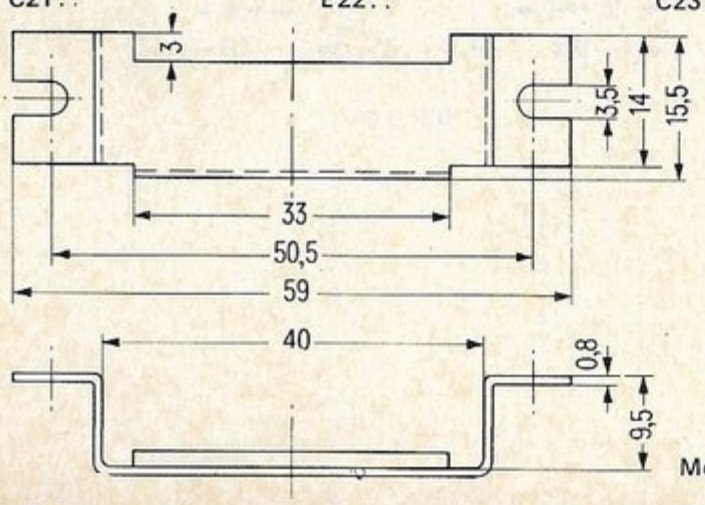
Type	Ordering number	Connection	Repetitive peak reverse voltage V	A. C. voltage recommended V	Max. continous mean forward current at ambient temperature ϑ_u = 45 °C: Resistitive loading, free installation A	Resistitive loading, chassis installation A	Capacitive loading, free installation A	Capacitive loading, chassis installation A	Surge forward current ϑ_j = 25 °C A	Surge forward current ϑ_j = 150 °C A
C 1406-B 40 C 3200/2200	C 66 067-A 1713-A2	B	100	40	2,7	4,0	2,2	3,2	100	80
C 1412-B 80 C 3200/2200	C 66 067-A 1713-A3	—~ +~	190	80						
C 2120-B 125 C 2600/1800	C 66 067-A 1714-A2	B	300	125	2,4	3,4	1,8	2,6	100	80
C 2140-B 250 C 2600/1800	C 66 067-A 1714-A3	—~ +~	600	250						
C 2180-B 500 C 2600/1800	C 66 067-A 1714-A4		1000	500						
C 2206-B 40 C 3200/2200	C 66 067-A 1715-A2	B	100	40	2,7	4,0	2,2	3,2	100	80
C 2212-B 80 C 3200/2200	C 66 067-A 1715-A4	—~~ +	190	80						
C 2220-B 125 C 3200/2200	C 66 067-A 1715-A5		300	125						
C 2340-B 250 C 2600/1800	C 66 067-A 1716-A2	B —~~ +	600	250	2,4	3,4	1,8	2,6	100	80
C 3906-B 40 C 3200/2200	C 66067-A 1739-A2	B —~ ~ +	Version with 30 mm long leads Data as for C 22..							
C 3912-B 80 C 3200/2200	C 66067-A 1739-A3									
C 3920-B 125 C 3200/2200	C 66067-A 1739-A4									
E 2106-B 40 C 5000/3300	C 66 067-A 1719-A2	B	100	40	4,0	6,0	3,3	5,0	250	200
E 2112-B 80 C 5000/3300	C 66 067-A 1719-A3	−~+~	190	80						
E 2220-B 125 C 5000/3300	C 66 067-A 1720-A2	B	300	125	4,0	6,0	3,3	5,0	250	200
E 2240-B 250 C 5000/3300	C 66 067-A 1720-A3	−~+~	600	250						
E 2506-B 40 C 5000/3300	C 66 067-A 1730-A2	B	100	40	4,0	6,0	3,3	5,0	250	200
E 2512-B 80 C 5000/3300	C 66 067-A 1730-A3	—~~ +	190	80						
E 2620-B 125 C 5000/3300	C 66 067-A 1731-A2	B	300	125	4,0	6,0	3,3	5,0	250	200
E 2640-B 250 C 5000/3300	C 66 067-A 1731-A3	—~~ +	600	250						
E 29 B 30/ 25-10	C 66067-A 1740-A 2		75	30						
E 29 B 60/ 52-10	C 66067-A 1740-A 3	B	150	60						
E 29 B 125/110-10	C 66067-A 1740-A 4	—~ +~	300	125	10	16	8	12,5	350	260
E 29 B 250/225-10	C 66067-A 1740-A 5		600	250						
mounting clip D 4 suitable for B 13, C 14, C 21, C 22, C 23, E 25, E 26	C 66067-A9000-C1									

Case see page 94





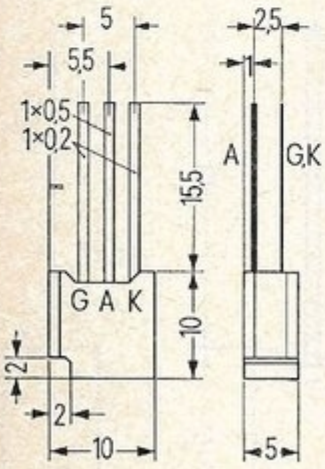




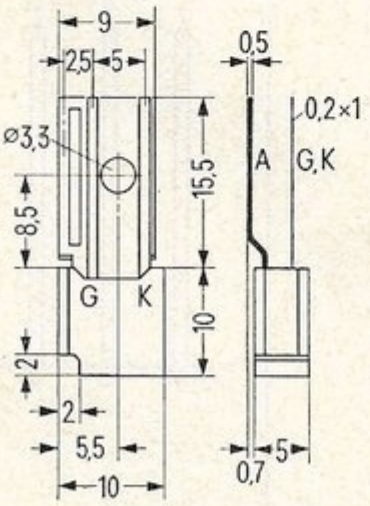
Mounting clip D 4

Thyristors for a.c. line-commutated converters

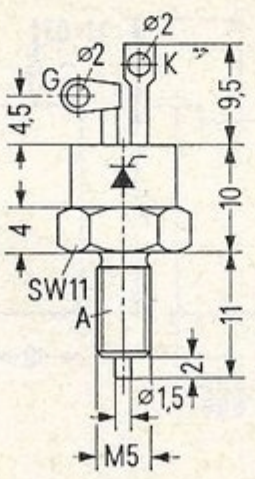
Type of thyristor	Ordering number	n	S6	H	L	Maximum repetitive peak reverse voltage	Critical rate-of-rise of forward blocking voltage	Critical rate-of-rise of forward current	Maximum continuous mean forward current	Maximum R. M. S. forward current	I²t-value	Minimum gate trigger current	Minimum gate trigger voltage	Turn off time	Max. Junction temperature	Internal thermal resistance junction to case
						V	V/µs	A/µs	A	A	A²s	mA	V	µs	°C	K/W
BSt B 01 06	C 66048-A 1401-	-A2		-A76		100	20 (n)	50 (n)	0,8	4,7	5,8	10	2	80	120	72²)
BSt B 01 13	C 66048-A 1401-	-A3		-A77		200	100 (H)		ϑ_U 45 °C							
BSt B 01 26	C 66048-A 1401-	-A4		-A78		400										
BSt B 01 33	C 66048-A 1401-	-A7		-A79		500										
BSt B 01 40	C 66048-A 1401-	-A5		-A80		600										
BSt B 01 46	C 66048-A 1401-	-A6		-A81		700										Gate firing classes see page 97
BSt B 02 06	C 66048-A 1402-	-A2		-A79		100	20 (n)	50 (n)	3	4,7	5,8	10	2	80	120	10¹)
BSt B 02 13	C 66048-A 1402-	-A3		-A80		200	100 (H)		ϑ_M 64 °C							
BSt B 02 26	C 66048-A 1402-	-A4		-A81		400										
BSt B 02 33	C 66048-A 1402-	-A7		-A82		500										
BSt B 02 40	C 66048-A 1402-	-A5		-A83		600										
BSt B 02 46	C 66048-A 1402-	-A6		-A84		700										Gate firing classes see page 97
BSt C 02 06	C 66048-A 1404-	-A2			-A17	100	20 (n)	100 (n)	3,5	5,5	24	20	2	50	125	10¹)
BSt C 02 13	C 66048-A 1404-	-A3			-A18	200	100 (L)		ϑ_M 67 °C							
BSt C 02 26	C 66048-A 1404-	-A4			-A19	400										
BSt C 02 33	C 66048-A 1404-	-A5			-A20	500										
BSt C 02 40	C 66048-A 1404-	-A6			-A21	600										
BSt C 02 46	C 66048-A 1404-	-A7			-A22	700										Gate firing classes see page 97
BSt C 03 13	C 66048-Z 1600-	-A1	-A7			200	20 (n)	150 (n)	16	25	160	40	3	60	125	1,8¹)
BSt C 03 26	C 66048-Z 1600-	-A2	-A8			400	200 (S6)		ϑ_G 59 °C							
BSt C 03 40	C 66048-Z 1600-	-A3	-A9			600										
BSt C 03 53	C 66048-Z 1600-	-A4	-A10			800										
BSt C 03 66	C 66048-Z 1600-	-A5	-A11			1000										
BSt C 03 80	C 66048-Z 1600-	-A6	-A12			1200										
BSt C 05 06	C 66048-A 1400-	-A9			-A66	100	20 (n)	50 (n)	5	8	24	20	2	50	125	4,5¹)
BSt C 05 13	C 66048-A 1400-	-A8			-A67	200	100 (L)		ϑ_G 76 °C							
BSt C 05 26	C 66048-A 1400-	-A7			-A68	400										
BSt C 05 33	C 66048-A 1400-	-A6			-A69	500										
BSt C 05 40	C 66048-A 1400-	-A5			-A70	600										
BSt C 05 46	C 66048-A 1400-	-A4			-A71	700										Gate firing classes see page 97



BSt B 01
BSt C 07

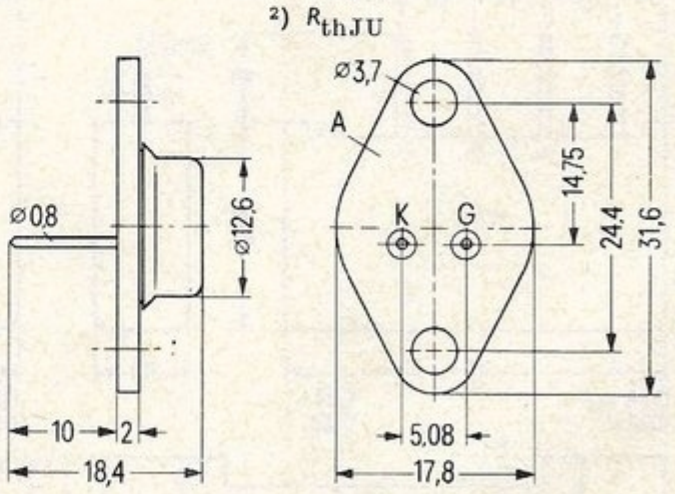


BSt B 02
BSt C 02



BSt C 03

¹) R_{thJM}
²) R_{thJU}



BSt C 05

Thyristors for a.c. line-commutated converters

Type of thyristor	Ordering number	n = normal	S 6	L	Maximum repetitive peak reverse voltage	Critical rate-of-rise of forward blocking voltage	Critical rate-of-rise of forward current	Maximum continuous mean forward current	Maximum R. M. S. forward current	I²t-value	Minimum gate trigger current	Minimum gate trigger voltage	Turn-off time	Max Junction temperature	internal thermal resistance junction to case
		n			V	V/µs	A/µs	A	A	A^2s	mA	V	µs	°C	K/W
										ϑ_j = 25 °C	ϑ_j = 25 °C	ϑ_j = 25 °C			
BSt C 0706	C 66048-A 1412-	-A2		-A14	100	20 (n)	200 (n)	0,9	5,5	24	20	2	50	125	72
BSt C 0713	C 66048-A 1412-	-A3		-A15	200	100 (L)		ϑ_U 45 °C							
BSt C 0726	C 66048-A 1412-	-A4		-A16	400										
BSt C 0733	C 66048-A 1412-	-A5		-A17	500										
BSt C 0740	C 66048-A 1412-	-A6		-A18	600										
BSt C 0746	C 66048-A 1412-	-A7		-A19	700						Gate firing classes see below				
BSt D 0313	C 66048-Z 1602-	-A1	-A7	[1])	200	20 (n)	150 (n)	16	25	310	40	3	60	125	1,5
BSt D 0326	C 66048-Z 1602-	-A2	-A8		400	200 (S6)		ϑ_G 85 °C							
BSt D 0340	C 66048-Z 1602-	-A3	-A9		600										
BSt D 0353	C 66048-Z 1602-	-A4	-A10		800										
BSt D 0366	C 66048-Z 1602-	-A5	-A11		1000										
BSt D 0380	C 66048-Z 1602-	-A6	-A12		1200	Delivery on request									
BSt E 0240	C 66048-Z 1603-	-A1	-A4	[1])	600	20 (n)	25 (n)	22	35	525	100	3	80	125	1,20
BSt E 0260	C 66048-Z 1603-	-A2	-A5		900	50 (S6)		ϑ_G 55 °C							
BSt E 0280	C 66048-Z 1603-	-A3	-A6		1200										

[1]) Case, see page 103

Type		Gate firing class	Minimum gate firing current at V_D = 6 V and junction temperature ϑ_j = 25 °C I_{GT} [mA] min	max	Maximum holding current at junction temperature ϑ_j = 25 °C I_H [mA]	Critical rate of rise of voltage to 67% of the maximum repetitive peak on state voltage and maximum junction temperature Parallel resistance gate to cathode	(du/dt)cr [V/µs]
BSt B 01 BSt B 02	06 13 26 33	B	0,2	1	20	1 kΩ	5
BSt B 01 BSt B 02	06 13 26 33 40 46	G	1	3	30	∞	20
		H	3	10	60	∞	100
			1	10	60	∞	20
BSt C 02 BSt C 05 BSt C 07	06 13 26 33	J	0,5	2	20	1 kΩ	5
BSt C 02 BSt C 05 BSt C 07	06 13 26 33 40 46	K	2	5	30	∞	20
		L	5	20	60	∞	100
			2	20	60	∞	20

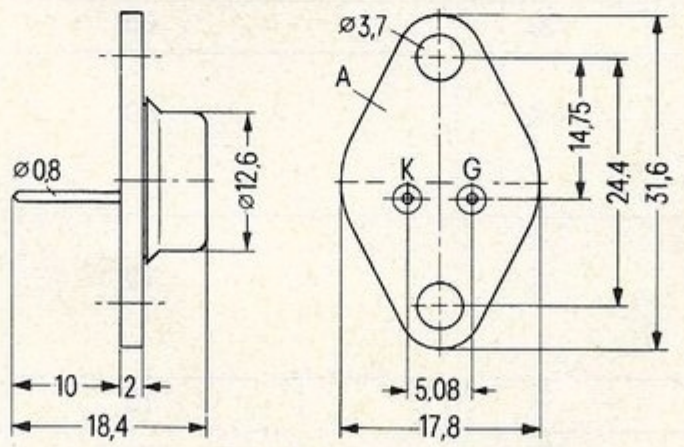
Orderingform: e.g. BSt B01 26 G, BSt C05 06 J . . .

Fast Turn-off thyristors

Type of thyristor	Ordering number	n = normal			Maximum repetitive peak reverse voltage	Critical rate-of-rise of forward blocking voltage	Critical rate-of-rise of forward current	Maximum continuous mean forward current	Maximum R. M. S. forward current	I^2t-value	Minimum gate trigger current	Minimum gate trigger voltage	Turn-off time	Max. Junction temperature	Internal thermal resistance junction to case
		n	S6	S9	V	V/µs	A/µs	A	A	A^2s	mA	V	µs	°C	K/W
BSt C 0626	C 66048-A 1408-A4		-A10	-A14	400	100 (n)	200 (n)	3,2	5	18	50	3	8	100	4,5
BSt C 0633	C 66048-A 1408-A5		-A11	-A15	500	200 (S6)		ϑ_G 67 °C							
BSt C 0640	C 66048-A 1408-A6		-A12	-A16	600	500 (S9)									
BSt C 0646	C 66048-A 1408-A7		-A13	-A17	700										
BSt CC 0126	C 66048-A 1409-A3[1])		-A17	-A21	400	100 (n)	200 (n)	3,2	5	18	50	3	8[2])	100	4,5
BSt CC 0133	C 66048-A 1409-A4		-A18	-A22	500	200 (S6)		ϑ_G 67 °C							
BSt CC 0140	C 66048-A 1409-A5		-A19	-A23	600	500 (S9)									
BSt CC 0146	C 66048-A 1409-A6		-A20	-A24	700										
BSt E 0426	C 66048-A 1411-A4				400	50	100	4	6,3	110	50	3	12	100	3,5
BSt E 0433	C 66048-A 1411-A5				500			ϑ_G 77 °C							
BSt E 0440	C 66048-A 1411-A6				600										
BSt E 0446	C 66048-A 1411-A7				700										
BSt F 2540	-A 2402-	-A3	-A8	-A13	-A18	600	50 (n)	50 (n)	30	47	1430	80	1,4	150	125	0,70
BSt F 2553	-A 2402-	-A28	-A37	-A46	-A55	800	200 (S6)	100 (S7)	ϑ_G 90 °C							
BSt F 2560	-A 2402-	-A4	-A9	-A14	-A19	900	500 (S9)								
BSt F 2566	-A 2402-	-A29	-A38	-A47	-A56	1000									
BSt F 2580	-A 2402-	-A31	-A48	-A49	-A58	1200									
BSt F 2590	-A 2402-	-A5	-A10	-A15	-A20	1350									
BSt F 25100	-A 2402-	-A32	-A41	-A50	-A59	1500									
BSt F 25110	-A 2402-	-A6	-A11	-A16	-A21	1650									
BSt H 0540	-A 2404-	-A3	-A8	-A13	-A18	600	50 (n)	50 (n)	70	110	7200	200	2,0	250	125	0,36
BSt H 0553	-A 2404-	-A50	-A58	-A66	-A74	800	200 (S6)	100 (S7)	ϑ_G 72 °C							
BSt H 0560	-A 2404-	-A4	-A9	-A14	-A19	900	500 (S9)								
BSt H 0566	-A 2404-	-A51	-A59	-A67	-A75	1000									
BSt H 0580	-A 2404-	-A43	-A44	-A45	-A46	1200									
BSt H 0590	-A 2404-	-A5	-A10	-A15	-A20	1350									
BSt H 05100	-A 2404-	-A53	-A61	-A69	-A77	1500									
BSt H 05110	-A 2404-	-A6	-A11	-A16	-A16	1650									
BSt H 05120	-A 2404-	-A54	-A62	-A70	-A78	1800									

[1]) revers conducting thyristor

[2]) faster turn-off time on request



BSt C 06

BSt CC 01

BSt E 04

Thyristors for a.c. line-commutated converters

Type of thyristor	Ordering number						Maximum repetitive peak reverse voltage	Critical rate-of-rise of forward blocking voltage	Critical rate-of-rise of forward current	Maximum continuous mean on-state current	Maximum R. M. S. on-state current	I^2t-value	Minimum gate trigger current	Minimum gate trigger voltage	Turn off time	Max. Junction temperature	Internal thermal resistance junction to case
	C 66048	n = normal n	S6	S7	S9	S10	V	V/µs	A/µs	A	A	A^2s	mA	V	µs	°C	K/W
BStL 3540[1])	-A2433-	-A4			-A44	-A64	600	200 (n)	100 (n)	150	235	42000	250	1,5	200	125	0,2
BStL 3553	-A2433-	-A6			-A46	-A66	800	500 (S9)		ϑ_G +70 °C							
BStL 3560	-A2433-	-A7			-A47	-A67	900	1000 (S10)									
BStL 3566	-A2433-	-A8			-A48	-A68	1000										
BStL 3580	-A2433-	-A10			-A50	-A70	1200										
BStL 3590	-A2433-	-A11			-A51	-A71	1350										
BStL 35100	-A2433-	-A12			-A52	-A72	1500										
BStL 35110	-A2433-	-A13			-A53	-A73	1650										
BStL 35120[1])	-A2433-	-A14			-A54	-A74	1800										
BStL 4540[1])	-A2459	-A4			-A24	-A44	600	200 (n)	100 (n)	240	375	42000	250	1,5	180	125	0,115
BStL 4553	-A2459	-A6			-A26	-A46	800	500 (S9)		ϑ_G + 68 °C							
BStL 4560	-A2459	-A7			-A27	-A47	900	1000 (S10)									
BStL 4566	-A2459	-A8			-A28	-A48	1000										
BStL 4580	-A2459	-A10			-A30	-A50	1200										
BStL 4590	-A2459	-A11			-A31	-A51	1350										
BStL 45100	-A2459	-A12			-A32	-A52	1500										
BStL 45110	-A2459	-A13			-A33	-A53	1650										
BStL 45120[1])	-A2459	-A14			-A34	-A54	1800										
BStL 6113	-A2481	-A61			-A71	-A81	200	200 (n)	150 (n)	275	430	100000	250	2,0	50	140	0,11
BStL 6120	-A2481	-A62			-A72	-A82	300	500 (S9)		ϑ_G +88 °C							
BStL 6126	-A2481	-A63			-A73	-A83	400	1000 (S10)									
BStL 6133	-A2481	-A64			-A74	-A84	500						u_T = 1,4/300 A				
BStL 9140	-Z2602	-A1			-A8	-A15	600	50 (n)	100	220	350	61000	150	1,4	130	125	0,185
BStL 9153	-Z2602	-A2			-A9	-A16	800	400 (S9)		ϑ_G +30 °C							
BStL 9166	-Z2602	-A3			-A10	-A17	1000	1000 (S10)									
BStL 9173	-Z2602	-A4			-A11	-A18	1100										
BStL 9180	-Z2602	-A5			-A12	-A19	1200										
BStL 9186	-Z2602	-A6			-A13	-A20	1300										
BStL 9193	-Z2602	-A7			-A14	-A21	1400										
BStN 3540[1])	-A2424-	-A4			-A44	-A64	600	200 (n)	100 (n)	280	440	190000	250	1,5	200	125	0,11
BStN 3553	-A2424-	-A6			-A46	-A66	800	500 (S9)		ϑ_G +73 °C							
BStN 3560	-A2424-	-A7			-A47	-A67	900	1000 (S10)									
BStN 3566	-A2424-	-A8			-A48	-A68	1000										
BStN 3580	-A2424-	-A10			-A50	-A70	1200										
BStN 3590	-A2424-	-A11			-A51	-A71	1350										
BStN 35100	-A2424-	-A12			-A52	-A72	1500										
BStN 35110	-A2424-	-A13			-A53	-A73	1650										
BStN 35120[1])	-A2424	-A14			-A54	-A74	1800										

[1]) Delivery on request

Thyristors for a.c. line-commutated converters

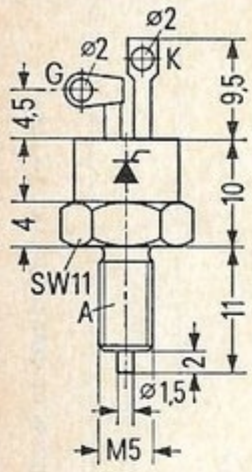
Type of thyristor	Ordering number						Maximum repetitive peak reverse voltage	Critical rate-of-rise of forward blocking voltage	Critical rate-of-rise of forward current	Maximum continuous mean on-state current	Maximum R. M. S. on-state current	I²t-value	Minimum gate trigger current	Minimum gate trigger voltage	Turn off time	Max. Junction temperature	Internal thermal resistance junction to case
	C 66048	n = normal	S6	S7	S9	S10	V	V/µs	A/µs	A	A	A²s	mA	V	µs	°C	K/W
BStN 4540[1])	-A2430-	-A4			-A44	-A64	600	200 (n)	100	450	710	190000	250	1,5	200	125	0,05
BStN 4553	-A2430-	-A6			-A46	-A66	800	500 (S9)		ϑ_G +76 °C							
BStN 4560	-A2430-	-A7			-A47	-A67	900	1000 (S10)									
BStN 4566	-A2430-	-A8			-A48	-A68	1000										
BStN 4580	-A2430-	-A10			-A50	-A70	1200										
BStN 4590	-A2430-	-A11			-A51	-A71	1350										
BStN 45100	-A2430-	-A12			-A52	-A72	1500										
BStN 45110	-A2430-	-A13			-A53	-A73	1650										
BStN 45120[1])	-A2430-	-A14			-A54	-A74	1800										
BStN 5240[1])	-A2441-	-A4			-A44	-A64	600	200 (n)	100	320	500	240000	250	1,5	200	125	0,1
BStN 5253	-A2441-	-A6			-A46	-A66	800	500 (S9)		ϑ_G +74 °C							
BStN 5260	-A2441-	-A7			-A47	-A67	900	1000 (S10)									
BStN 5266	-A2441-	-A8			-A48	-A68	1000										
BStN 5280	-A2441-	-A10			-A50	-A70	1200										
BStN 5290	-A2441-	-A11			-A51	-A71	1350										
BStN 5540[1])	-A2442-	-A4			-A44	-A64	600	200 (n)	100 n	280	440	190000	250	1,5	200	125	0,11
BStN 5553	-A2442-	-A6			-A46	-A66	800	500 (S9)		ϑ_G +73 °C							
BStN 5560	-A2442-	-A7			-A47	-A67	900	1000 (S10)									
BStN 5566	-A2442-	-A8			-A48	-A68	1000										
BStN 5580	-A2442-	-A10			-A50	-A70	1200										
BStN 5590	-A2442-	-A11			-A51	-A71	1350										
BStN 55100	-A2442-	-A12			-A52	-A72	1500										
BStN 55110	-A2442-	-A13			-A53	-A73	1650										
BStN 55120[1])	-A2442-	-A14			-A54	-A74	1800										
BStN 6113	-A2482-	-A61			-A71	-A81	200	200 (n)	150 n	500	785	300000	250	2,0	50	140	0,06
BStN 6120	-A2482-	-A62			-A72	-A82	300	500 (S9)		ϑ_G = 89 °C							
BStN 6126	-A2482-	-A63			-A73	-A83	400	1000 (S10)									
BStN 6133	-A2482-	-A64			-A74	-A84	500							u_T = 1,4 V/600 A			
BStP 1540[1])	-A2417-	-A4			-A44	-A64	600	200 (n)	100 n	800	1250	600000	250	1,5	200	125	0,04
BStP 1553	-A2417-	-A6			-A46	-A66	800	500 (S9)		ϑ_G +70 °C							
BStP 1560	-A2417-	-A7			-A47	-A67	900	1000 (S10)									
BStP 1566	-A2417-	-A8			-A48	-A68	1000										
BStP 1580	-A2417-	-A10			-A50	-A70	1200										
BStP 1590	-A2417-	-A11			-A51	-A71	1350										
BStP 15100	-A2417-	-A12			-A52	-A72	1500										
BStP 15110	-A2417-	-A13			-A53	-A73	1650										
BStP 15120[1])	-A2417-	-A14			-A54	-A74	1800										

[1]) Delivery on request

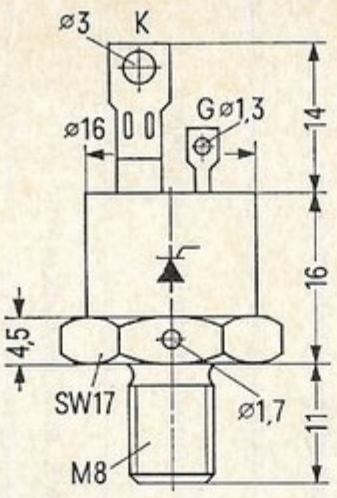
Thyristors for a.c. line-commutated converters

Type of thyristor	Ordering number	n = normal					Maximum repetitive peak reverse voltage	Critical rate-of-rise of forward blocking voltage	Critical rate-of-rise of forward current	Maximum continuous mean on-state current	Maximum R. M. S. on-state current	I^2t-value	Minimum gate trigger current	Minimum gate trigger voltage	Turn off time	Max. junction temperature	Internal thermal resistance junction to case
	C 66048	n	S6	S7	S9	S10	V	V/µs	A/µs	A	A	A^2s	mA	V	µs	°C	K/W
BStP 3540[1])	-A2426-	-A4			-A44	-A64	600	200 (n)	100	350	550	480000	250 n	1,5	200	125	0,08
BStP 3553	-A2426-	-A6			-A46	-A66	800	500 (S9)		ϑ_G +82 °C							
BStP 3560	-A2426-	-A7			-A47	-A67	900	1000 (S10)									
BStP 3566	-A2426-	-A8			-A48	-A68	1000										
BStP 3580	-A2426-	-A10			-A50	-A70	1200										
BStP 3590	-A2426-	-A11			-A51	-A71	1350										
BStP 35100	-A2426-	-A12			-A52	-A72	1500										
BStP 35110	-A2426-	-A13			-A53	-A73	1650										
BStP 35120[1])	-A2426-	-S14			-A54	-A74	1800										
BStP 36133	-A2428-	-A2			-A12	-A17	2000	200 (n)	50	320	500	240000	250	1,5	300	125	0,085
BStP 36146	-A2428-	-A3			-A13	-A18	2200	500 (S9)		ϑ_G +74 °C							
BStP 36166	-A2428-	-A4			-A14	-A19	2500	1000 (S10)									
BStP 4540[1])	-A2431-	-A4			-A44	-A64	600	200 (n)	100	800	1250	600000	250	1,5	200	125	0,04
BStP 4553	-A2431-	-A6			-A46	-A66	800	500 (S9)		ϑ_G +70 °C							
BStP 4560	-A2431-	-A7			-A47	-A67	900	1000 (S10)									
BStP 4566	-A2431-	-A8			-A48	-A68	1000										
BStP 4580	-A2431-	-A10			-A50	-A70	1200										
BStP 4590	-A2431-	-A11			-A51	-A71	1350										
BStP 45100	-A2431-	-A12			-A52	-A72	1500										
BStP 45110	-A2431-	-A13			-A53	-A73	1650										
BStP 45120[1])	-A2431-	-A14			-A54	-A74	1800										
BStP 46133	-A2436-	-A2			-A12	-A17	2000	200 (n)	50	600	940	240000	250	1,5	300	125	0,045
BStP 46146	-A2436-	-A3			-A13	-A18	2200	500 (S9)		ϑ_G +65 °C							
BStP 46166	-A2436-	-A4			-A14	-A19	2500	1000 (S10)									
BStP 5540[1])	-A2443-	-A4			-A44	-A64	600	200 (n)	100	350	550	480000	250	1,5	200	125	0,08
BStP 5553	-A2443-	-A6			-A46	-A66	800	500 (S9)		ϑ_G +82 °C							
BStP 5560	-A2443-	-A7			-A47	-A67	900	1000 (S10)									
BStP 5566	-A2443-	-A8			-A48	-A68	1000										
BStP 5580	-A2443-	-A10			-A50	-A70	1200										
BStP 5590	-A2443-	-A11			-A51	-A71	1350										
BStP 55100	-A2443-	-A12			-A52	-A72	1500										
BStP 55110	-A2443-	-A13			-A53	-A73	1650										
BStP 55120[1])	-A2443-	-A14			-A54	-A74	1800										
BStP 56133	-A2444-	-A2			-A12	-A17	2000	200 (n)	50	320	500	240000	250	1,5	300	125	0,085
BStP 56146	-A2444-	-A3			-A13	-A18	2200	500 (S9)		ϑ_G +74 °C							
BStP 56166	-A2444-	-A4			-A14	-A19	2500	1000 (S10)									
BSt R 1560							900	200 (n)	50	1400	2200	$2,3 \cdot 10^6$	300	2,5	200	125	0,02
BSt R 1566							1000			ϑ_G = 73 °C							
BSt R 1580							1200										
BSt R 1590							1350										
BSt R 15100							1500										
BSt R 15110							1650										
BSt R 15120							1800										
BStR 16133	-A2429-	-A2					2000	200	50	800	1250	960000	300	2,5	250	120	0,035
BStR 16146	-A2429-	-A3					2200			ϑ_G +57 °C							
BStR 16166	-A2429-	-A4					2500										

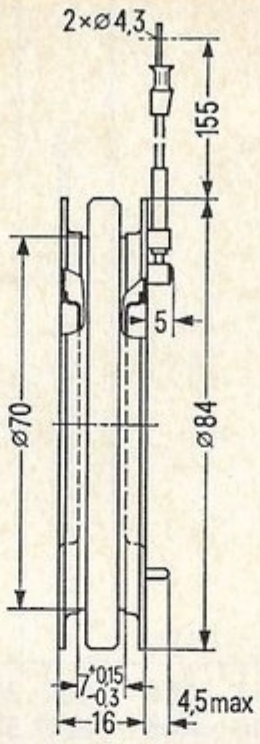
[1]) Delivery on request



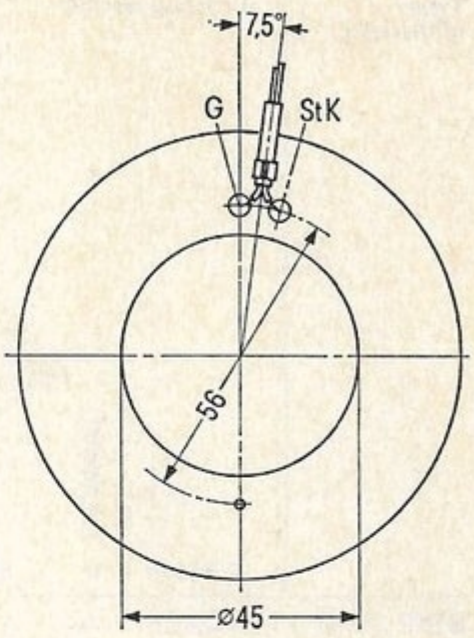
BSt C 03
BSt D 03

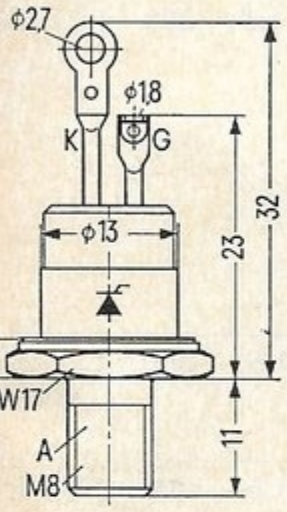


BSt E 02

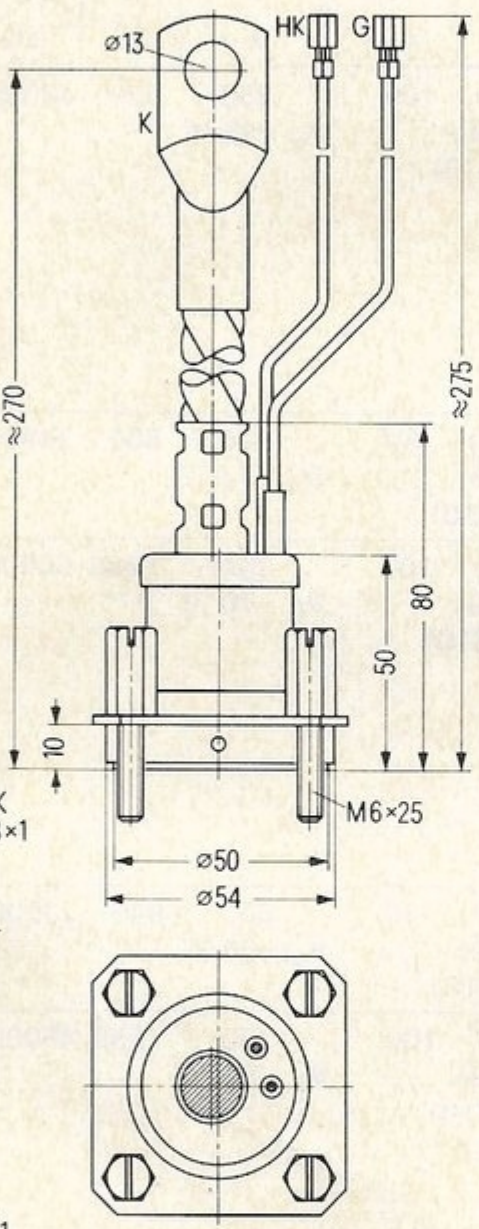


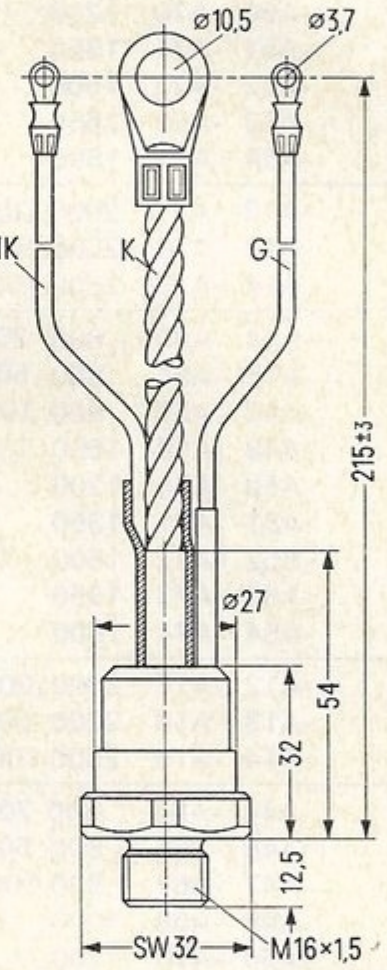
BSt P 15, BSt R 16



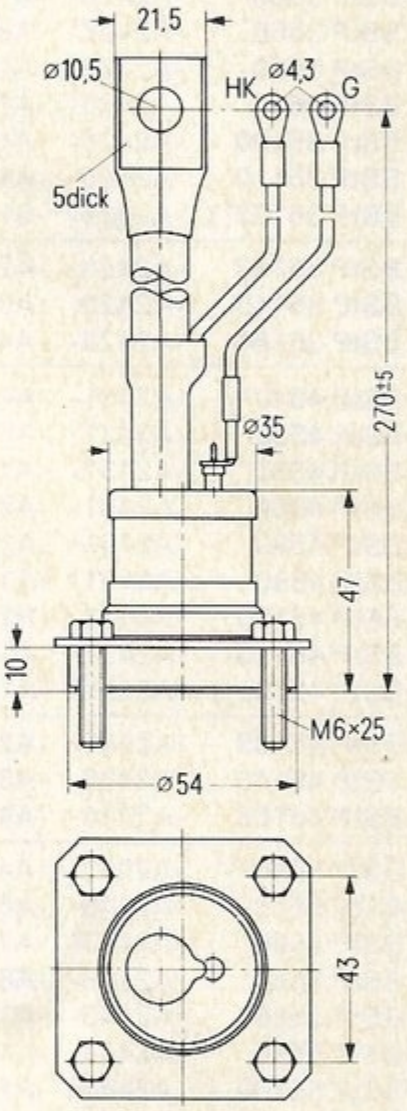


BSt F 25

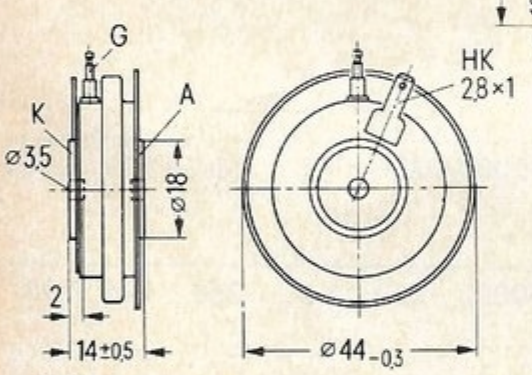




BSt L 35

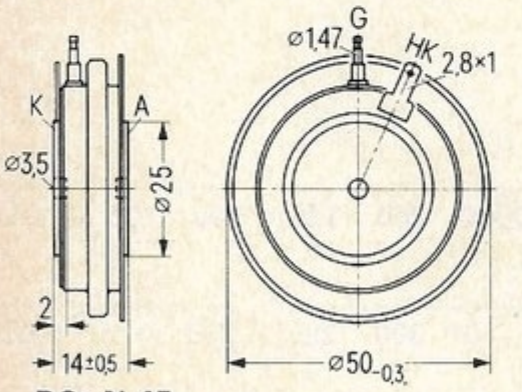


BSt N 52, BSt N 55
BSt P 55, BSt P 56



BST L 45

BSt L 91



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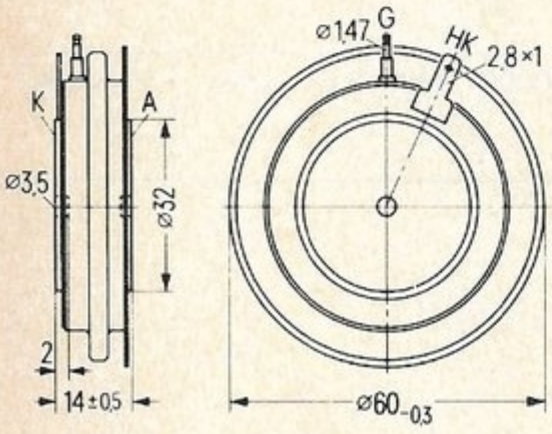
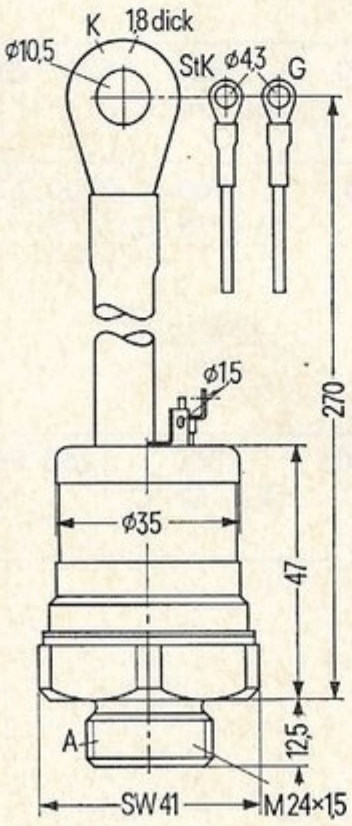
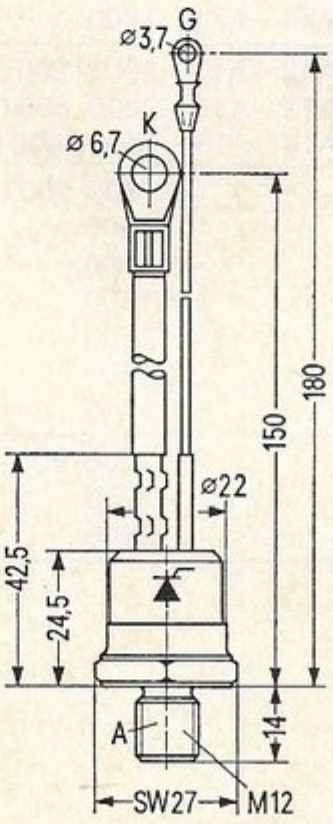


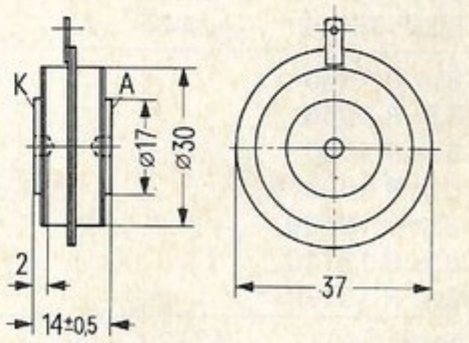
BSt P 45, BSt P 46



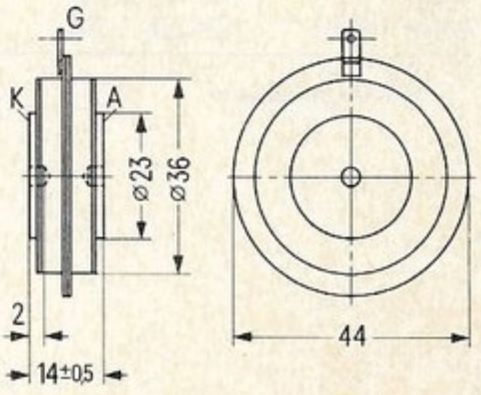
BSt N 35
BSt P 35
BSt P 36



BSt H 05



BSt L 61



BSt N 61

Thyristors for Converters with forced commutation

Type of thyristor	Ordering number C 66048 n	n = normal	S6	S7	Maximum repetitive peak reverse voltage V	Critical rate-of-rise of forward blocking voltage V/µs	Critical rate-of-rise of forward current A/µs	Maximum continuous mean on-state current A	Maximum R. M. S. on-state current A	I²t-value ϑj = 25 °C A²s	Minimum gate trigger current ϑj = 25 °C mA	Minimum gate trigger voltage ϑj = 25 °C V	Turn off time µs	Max. junction temperature °C	Internal thermal resistance junction to case K/W
BStF 0440	-A2401	-A3	-A7	-A11	600	50 (n)	50 (n)	30	47	960	100	2	25	110	0,70
BStF 0455	-A2401	-A4	-A8	-A12	800	200 (S6)	100 (S7)	ϑ_G 66 °C							
BStF 0460	-A2401	-A5	-A9	-A13	900										
BStF 0466[1])	-A2401	-A17	-A21	-A25	1000										
BStH 0440	-A2403	-A3	-A11	-A5	600	50 (n)	50 (n)	70	110	7200	200	2	25	110	0,4
BStH 0455	-A2403	-A4	-A12	-A6	800	200 (S6)	100 (S7)	ϑ_G 55 °C							
BStH 0460	-A2403	-A5	-A13	-A7	900										
BStH 0466[1])	-A2403	-A30	-A34	-A38	1000										
BStL 2440	-A2409	-A3	-A7	-A11	600	50 (n)	50 (n)	150	235	36000	300	2	25	110	0,22
BStL 2455	-A2409	-A4	-A8	-A12	800	200 (S6)	100 (S7)	ϑ_G 53 °C							
BStL 2460	-A2409	-A5	-A9	-A13	900	Not for new design. Spare type BStL 34									
BStL 2466[1])	-A2409	-A17	-A21	-A25	1000										
BStL 3440	-A2432		-A4	-A44	600	200	100	130	205	40000	300	2,0	..k 25	125	0,2
BStL 3446	-A2432		-A5	-A45	700								..l 30		
BStL 3453	-A2432		-A6	-A46	800										
BStL 3460	-A2432		-A7	-A47	900										
BStL 3466	-A2432		-A8	-A48	1000										
BStL 3473	-A2432		-A9	-A49	1100										
BStL 3480	-A2432		-A10	-A50	1200										
BStL 3486[1])	-A2433		-A61	-A62	1300										
BStL 3733	-A2434	-A3 -A44			500	200	100	130	205	40000	300	2,0	..f 15	125	0,2
BStL 3740	-A2434	-A4 -A45			600								..g 18		
BStL 3746	-A2434	-A5 -A46			700										
BStL 3753	-A2424	-A6 -A47			800										
BStL 3760	-A2434	-A7 -A48			900										
BStL 3766[1])	-A2434	-A8 -A49			1000										
BStL 4440	-A2468		-A4	-A24	600	200 (n)	100 (n)	200	314	40000	300	2,0	..k 25	125	0,1
BStL 4446	-A2468		-A5	-A25	700	500 (S9)*)		ϑ_G = 72 °C					..l 30		
BStL 4453	-A2468		-A6	-A26	800										
BStL 4460	-A2468		-A7	-A27	900										
BStL 4466	-A2468		-A8	-A28	1000										
BStL 4473	-A2468		-A9	-A29	1100										
BStL 4480	-A2468		-A10	-A30	1200										
BStL 4486[1])	-A2468		-A41	-A42	1300										
BStL 6113	-A2481	-A1			200	200 (n)	150 (n)	275	430	100000	250	2,0	..f 15	140	6,11
BStL 6120	-A2481	-A2			300	500 (S9)*)		ϑ_G = 88 °C							
BStL 6126	-A2481	-A3			400										
BStL 6133	-A2481	-A4			500										

[1]) Delivery on request

f g k l
: : : :
Turn-off time class

Thyristors for Converters with forced commutation

Type of thyristor	Ordering number C 66048 n = normal							Maximum repetitive peak reverse voltage	Critical rate-of-rise of forward blocking voltage	Critical rate-of-rise of forward current	Maximum continuous mean forward current	Maximum R. M. S. forward current	I²t-value	Minimum gate trigger current	Minimum gate trigger voltage	Turn off time	Max. junction temperature	Internal thermal resistance junction to case
	n	S2	S6	S7	S8	S9		V	V/µs	A/µs	A	A	A²s	mA	V	µs	°C	K/W
													ϑj = 25 °C	ϑj = 25 °C	ϑj = 25 °C			
BStL 9013	-Z2601	-A1	-A21	-A11				200	50 (n)	100	190	300	51000	150	1,4	30 (n)	125	0,185
BStL 9026	-Z2601	-A2	-A22	-A12				400	100 (S6)		ϑ_G +30 °C					20 (S2)		
BStL 9040	-Z2601	-A3	-A23	-A13				600										
BStL 9046	-Z2601	-A4	-A24	-A14				700										
BStL 9053	-Z2601	-A5	-A25	-A15				800										
BStL 9060	-Z2601	-A6	-A26	-A16				900										
BStL 9066	-Z2601	-A7	-A27	-A17				1000										
BStL 9073	-Z2601	-A8	-A28	-A18				1100										
BStL 9080	-Z2601	-A9	-A29	-A19				1200										
BStL 9086	-Z2601	-A10	-A30	-A20				1300										
BStN 2340	-A2412	-A3		-A6	-A9	-A12		600	50 (n)	50 (n)	280	440	130000	300	2	35 (n)	115	0,13
BStN 2353	-A2412	-A24		-A29	-A34	-A39		800	200 (S6)	100 (S7)	ϑ_G 47 °C					50 (S8)		
BStN 2360	-A2412	-A4		-A7	-A10	-A13		900	Not for new design. Replacement type BStN 34									
BStN 2366[1])	-A2412	-A25		-A30	-A35	-A40		1000										
BStN 3340	-A2423	-A9				-A13		600	200 (n)	100	280	440	175000	250	1,5	80	125	0,11
BStN 3353	-A2423	-A10				-A14		800	500 (S9)		ϑ_G +69 °C							
BStN 3360	-A2423	-A2				-A15		900										
BStN 3366	-A2423	-A11				-A16		1000										
BStN 3373	-A2423	-A12				-A17		1100										
BStN 3380	-A2423	-A3				-A18		1200										
BStN 3390	-A2423	-A4				-A19		1350										
BStN 3440	-A2435			-A4	-A44			600	200 (n)	100	250	395	135000	300	2,0	. . k 25	125	0,11
BStN 3446	-A2435			-A5	-A45			700								. . l 30		
BStN 3453	-A2435			-A6	-A46			800										
BStN 3460	-A2435			-A7	-A47			900										
BStN 3466	-A2435			-A8	-A48			1000										
BStN 3473	-A2435			-A9	-A49			1100										
BStN 3480	-A2435			-A10	-A50			1200										
BStN 3486[1])	-A2425			-A61	-A62			1300										
BStN 3733	-A2447	-A3	-A23					500	200 (n)	200 (n)	260	410	135000	250	2,5		125	0,11
BStN 3740	-A2447	-A4	-A24					600	500 (S9) *)		ϑ_G = 70 °C					. . j 15		
BStN 3746	-A2447	-A5	-A25					700								. . g 18		
BStN 3753	-A2447	-A6	-A26					800										
BStN 3760	-A2447	-A7	-A27					900										
BStN 3766[1])	-A2447	-A8	-A28					1000										
BStN 4440	-A2445			-A4	-A44			600	200	100	375	590	135000	300	2,0	. . k 25	125	0,06
BStN 4446	-A2445			-A5	-A45			700								. . l 30		
BStN 4453	-A2445			-A6	-A46			800										
BStN 4460	-A2445			-A7	-A47			900										
BStN 4466	-A2445			-A8	-A48			1000										
BStN 4473	-A2445			-A9	-A49			1100										
BStN 4480	-A2445			-A10	-A50			1200										
BStN 4486[1])	-A2445			-A61	-A62			1300										
BStN 4733	-A2448	-A3	-A23					500	200 (n)	200 (n)	375	590	135000	300	2,0	. . f 15	125	0,05
BStN 4740	-A2448	-A4	-A24					600	500 (S9)*)		ϑ_G = 70 °C					. . g 18		
BStN 4746	-A2448	-A5	-A25					700										
BStN 4753	-A2448	-A6	-A26					800										
BStN 4760	-A2448	-A7	-A27					900										
BStN 4766[1])	-A2448	-A8	-A28					1000										
BStN 6113	-A2482	-A1						200	200 (n)	150 (n)	500	785	300000	250	2,0	. . f 15	140	0,06
BStN 6120	-A2482	-A2						300	500 (S9)*)		ϑ_G = 89 °C							
BStN 6126	-A2482	-A3						400										
BStN 6133	-A2482	-A4						500										

[1]) Delivery on request

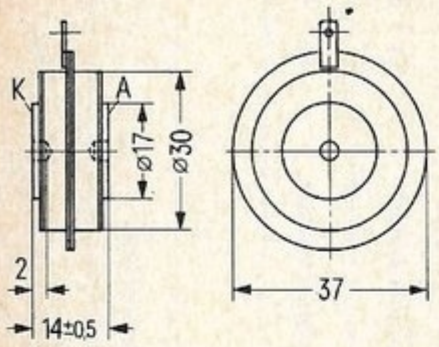
f g k l

Turn-off time class

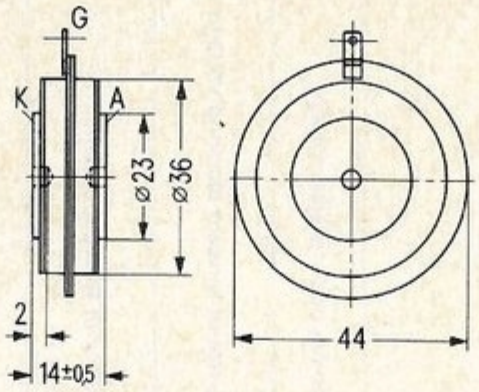
Thyristors for Converters with forced commutation

Type of thyristor	Ordering number C 66048	Turn-off time class f	g	k	l	Maximum repetitive peak reverse voltage V	Critical rate-of-rise of forward blocking voltage V/µs	Critical rate-of-rise of forward current A/µs	Maximum continuous mean forward current A	Maximum R. M. S. forward current A	I²t-value ϑj = 25 °C A²s	Minimum gate trigger current ϑj = 25 °C mA	Minimum gate trigger voltage ϑj = 25 °C V	Turn off time µs	Max. junction temperature °C	Internal thermal resistance junction to case K/W
BStN 5440	-A2446			-A4	-A44	600	200	100	250	395	135 000	300	2,0	.. k 25	125	0,11
BStN 5446	-A2446			-A5	-A45	700								.. l 30		
BStN 5453	-A2446			-A6	-A46	800										
BStN 5460	-A2446			-A7	-A47	900										
BStN 5466	-A2446			-A8	-A48	1000										
BStN 5473	-A2446			-A9	-A49	1100										
BStN 5480	-A2446			-A10	-A50	1200										
BStN 5486[1])	-A2446			-A61	-A62	1300										
BStN 5733	-A2484	-A3		-A23		500	200 (n)	200 (n)	260	410	135 000	250	2,5	.. f 15	125	0,11
BStN 5740	-A2484	-A4		-A24		600	500 (S9)*)		ϑ_G = 70 °C					.. g 18		
BStN 5746	-A2484	-A5		-A25		700										
BStN 5753	-A2484	-A6		-A26		800										
BStN 5760	-A2484	-A7		-A27		900										
BStN 5766[1])	-A2484	-A8		-A28		1000										
BStP 3440	-A2449			-A4	-A24	600	200 (n)	200	350	550	580 000	300	2,0	.. k 25	125	0,08
BStP 3446	-A2449			-A5	-A25	700	500 (S9)*)		ϑ_G = 69 °C					.. l 30		
BStP 3453	-A2449			-A6	-A26	800										
BStP 3460	-A2449			-A7	-A27	900										
BStP 3466	-A2449			-A8	-A28	1000										
BStP 3473	-A2449			-A9	-A29	1100										
BStP 3480	-A2449			-A10	-A30	1200										
BStP 3486[1])	-A2449			-A42	-A41	1300										
BStP 4440	-A2450			-A4	-A24	600	200 (n)	200	700	1100	580 000	300	2,0	.. k 25	125	0,033
BStP 4446	-A2450			-A5	-A25	700	500 (S9)*)		ϑ_G = 67 °C					.. l 30		
BStP 4453	-A2450			-A6	-A26	800										
BStP 4460	-A2450			-A7	-A27	900										
BStP 4466	-A2450			-A8	-A28	1000										
BStP 4473	-A2450			-A9	-A29	1100										
BStP 4480	-A2450			-A10	-A30	1200										
BStP 4486	-A2450			-A42	-A41	1300										
BStP 5440	-A2453			-A4	-A24	600	200 (n)	200	350	550	580 000	300	2,0	.. k 25	125	0,08
BStP 5446	-A2453			-A5	-A25	700	500 (S9)*)		ϑ_G = 69 °C					.. l 30		
BStP 5453	-A2453			-A6	-A26	800										
BStP 5460	-A2453			-A7	-A27	900										
BStP 5466	-A2453			-A8	-A28	1000										
BStP 5473	-A2453			-A9	-A29	1100										
BStP 5480	-A2453			-A10	-A30	1200										
BStP 5486[1])	-A2453			-A42	-A41	1300										

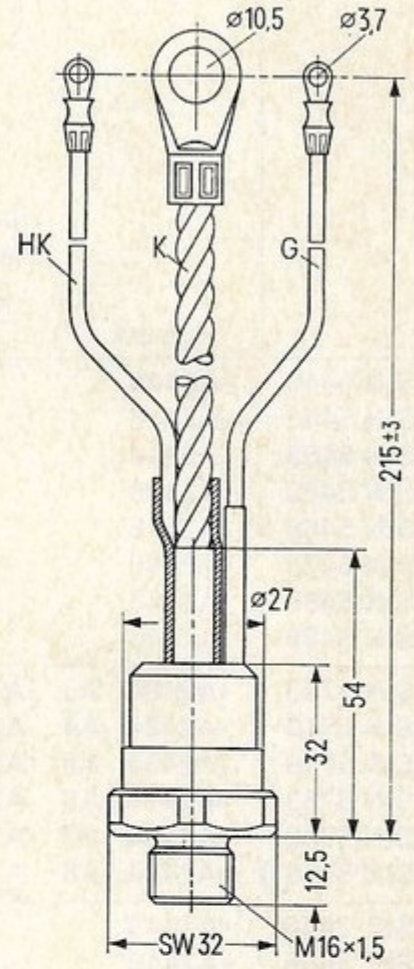
*) Delivery on request



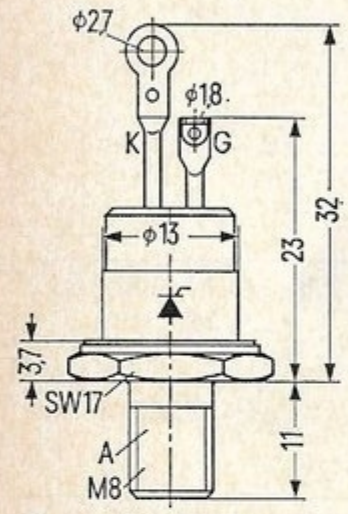
BSt L 61



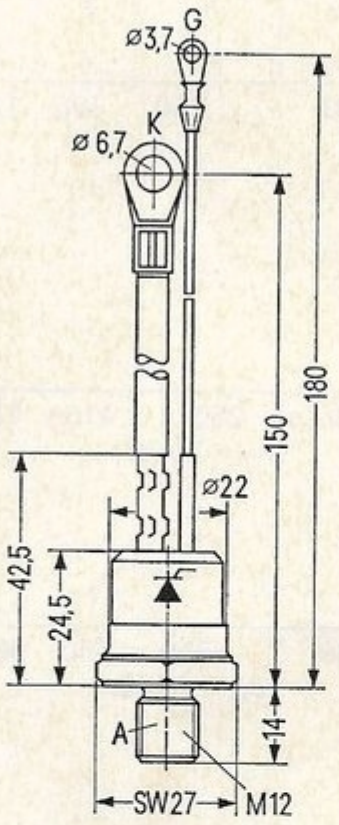
BSt N 61



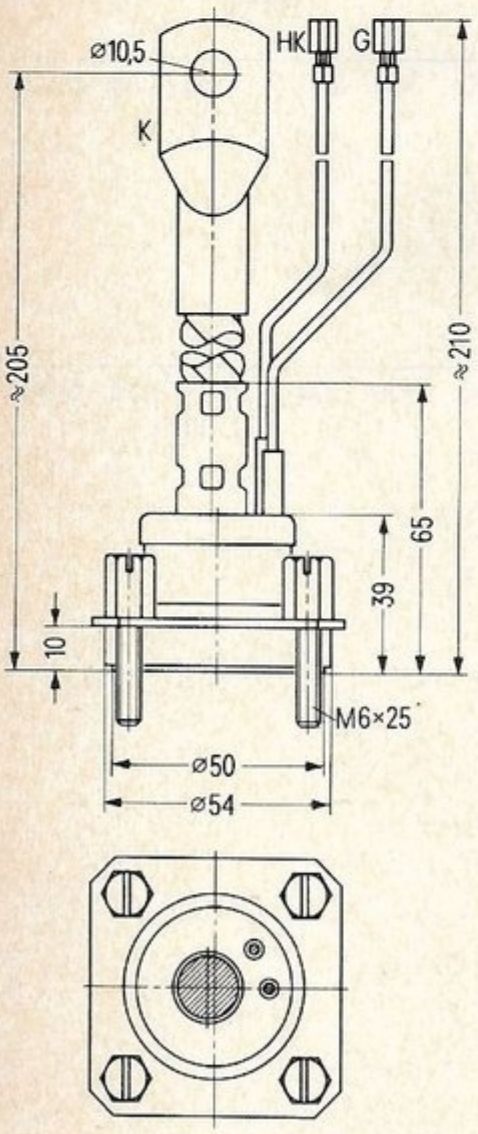
BSt L 24
BSt L 34
BSt L 37



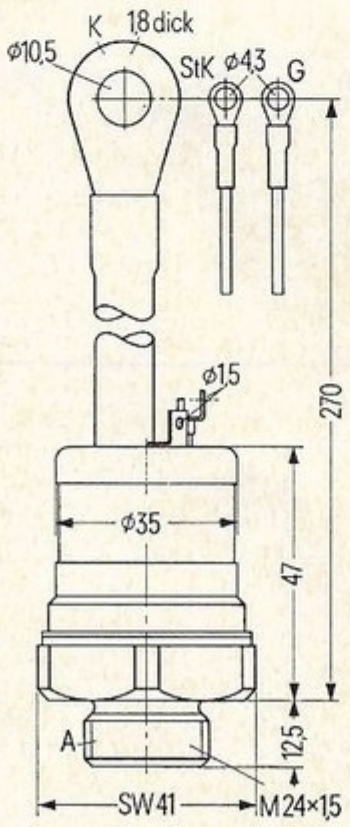
BSt F 04



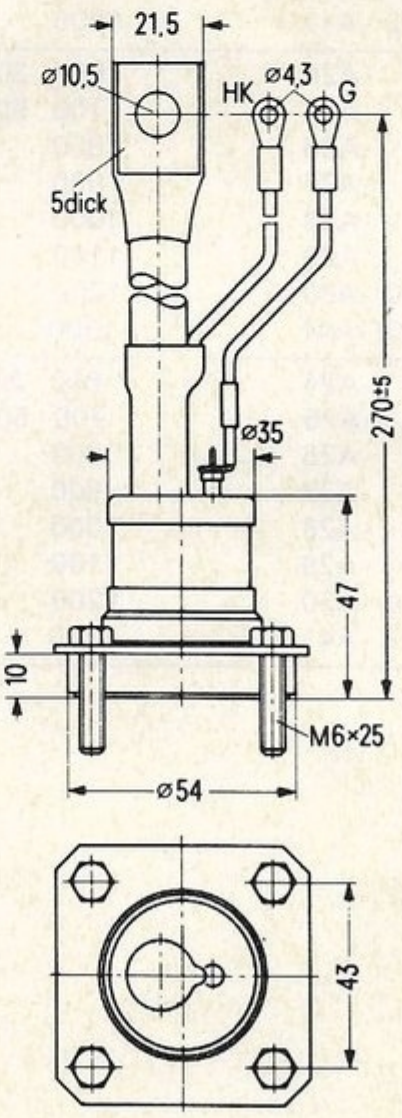
BSt H 04



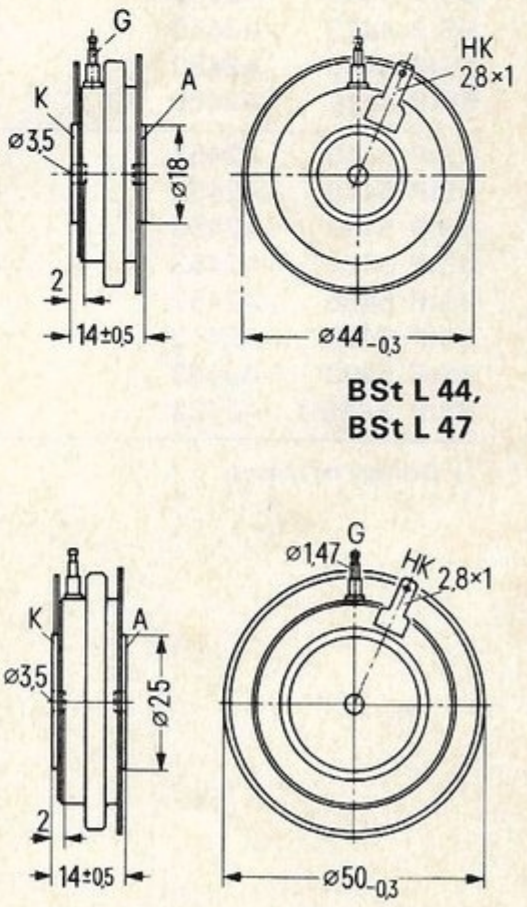
BSt L 90



BSt N 23
BSt N 33
BSt N 34
BSt N 37



BSt N 54
BSt N 57
BSt P 54



BSt L 44,
BSt L 47

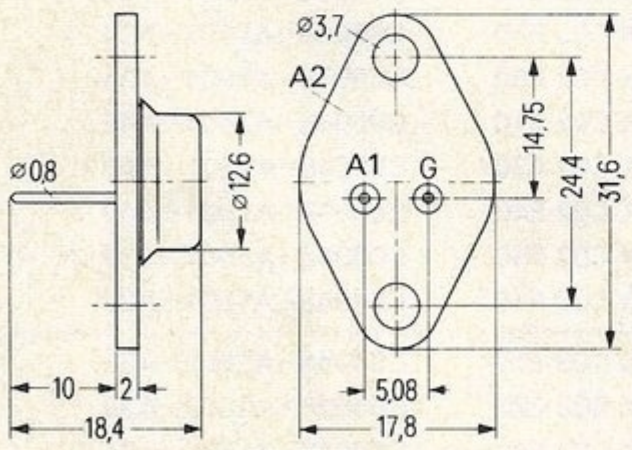
BSt N 44, BSt N 47

Triacs Diac

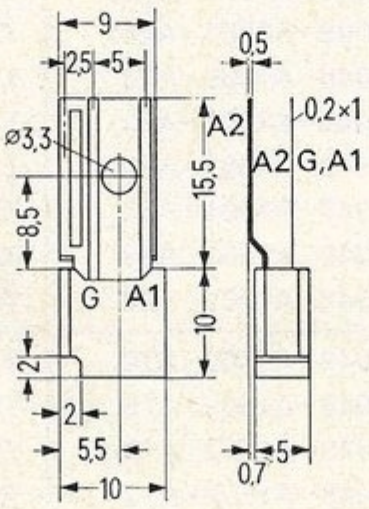
Type of triac	Ordering number	Maximum repetitive peak reverse voltage V	Critical rate-of-rise of forward blocking voltage V/µs	Critical rate of rise of commutation voltage V/µs	Critical rate-of-rise of forward current A/µs	Maximum continuous mean forward current A	I^2t-value ϑ_j = 25 °C A^2s	Minimum gate trigger current ϑ_j = 25 °C mA	Minimum gate trigger voltage ϑ_j = 25 °C V	Junction temperature °C	Thermal resistance junction to case K/W
TX C 01 A 10	C 66 048-A 1500-A8	100	50	2	20	6	12,5	75	3	120	4,5
TX C 01 A 20	C 66 048-A 1500-A7	200				ϑ_G 80 °C					
TX C 01 A 40	C 66 048-A 1500-A6	400									
TX C 01 A 50	C 66 048-A 1500-A5	500									
TX C 01 A 60	C 66 048-A 1500-A4	600						Gate firing classes see page 108			
TX C 02 A 10	C 66 048-A 1501-A2	100	50	2	20	3	10	75	3	120	12
TX C 02 A 20	C 66 048-A 1501-A3	200				ϑ_G 78 °C					
TX C 02 A 40	C 66 048-A 1501-A4	400									
TX C 02 A 50	C 66 048-A 1501-A5	500									
TX C 02 A 60	C 66 048-A 1501-A6	600						Gate firing classes see page 108			
TX C 03 A 10	C 66 048-A 1502-A6	100	50	2	50	1	10	75	3	120	25
TX C 03 A 20	C 66 048-A 1502-A5	200				ϑ_G 96 °C					
TX C 03 A 40	C 66 048-A 1502-A4	400									
TX C 03 A 50	C 66 048-A 1502-A3	500									
TX C 03 A 60	C 66 048-A 1502-A2	600						Gate firing classes see page 108			
TX D 98 A 20	C 66 048-Z 1651-A1	200	20	2	10	15	45	50	2,5	115	1,75
TX D 98 A 40	C 66 048-Z 1651-A2	400				ϑ_G 80 °C					
TX D 98 A 50	C 66 048-Z 1651-A3	500									
TX D 99 A 20	C 66 048-Z 1650-A1	200	20	2	10	10	45	50	2,5	100	1,9
TX D 99 A 40	C 66 048-Z 1650-A2	400				ϑ_G 75 °C					
TX D 99 A 50	C 66 048-Z 1650-A3	500									
TX E 99 A 20	C 66 048-Z 1652-A1	200	100	5	10	25	265	50	2,5	115	1,19
TX E 99 A 40	C 66 048-Z 1652-A2	400				ϑ_G 80 °C					
TX E 99 A 50	C 66 048-Z 1652-A3	500									

Diac

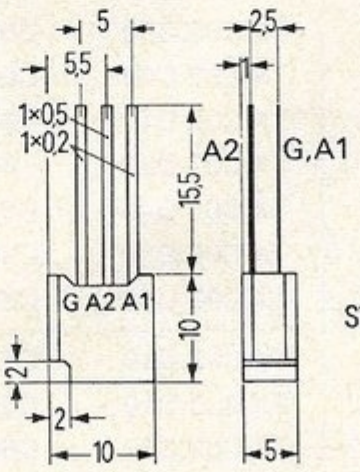
A 99 03	C 66 047-Z 1304-A3	Break-over at 25 °C	32, ±4 V	Break-over voltage sym. at 25 °C	typ. 8 V
		Break-over current at 25 °C	typ. 0.4 mA		max. 5 V
			max. 1.0 mA	Temperature coefficient at break-over voltage	0.1 %/K



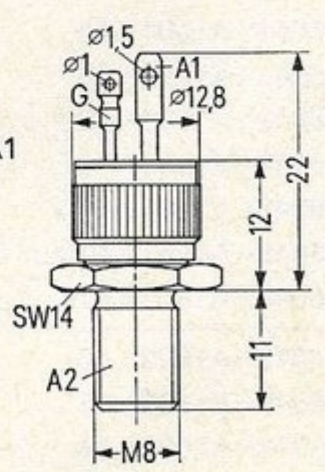
TX C 01



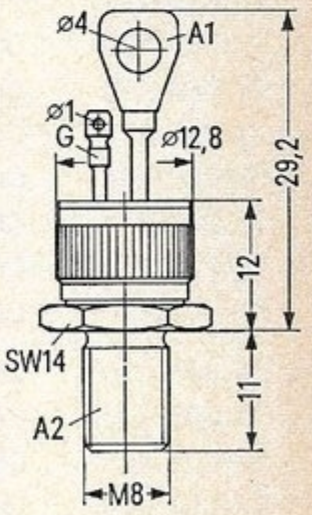
TX C 02



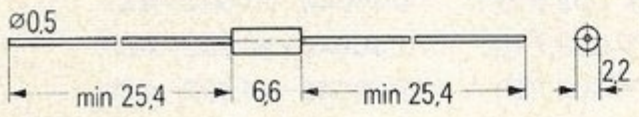
TX C 03



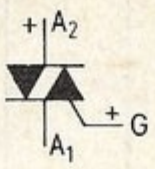
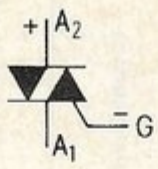
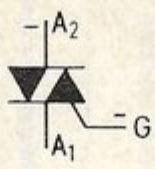
TX D 98A
TX D 99A



TX E 99A



A 99

Type	Minimum gate trigger current at $U = 12\,V$ between anode 1 and anode 2 (reference point A 1) $\vartheta_j = 25\,°C$			Maximum holding current at $U = 12\,V$ between anode 1 and anode 2 as well as between anode 2 and anode 1 $\vartheta_j = 25\,°C$	Critical rate of rise of commutation voltage and current for both directions, for rise to 67% U_{DRM} and $\vartheta_j = 120\,°C$	
					di/dt	du/dt
TX C01 A10 to A60	50 mA	75 mA	50 mA	80 mA	3,2 A/ms	2 V/µs
TX C02 A10 to A60					1,6 A/ms	
TX C03 A10 to A60					0,6 A/ms	
TX C01 B10 to B60	50 mA	75 mA	50 mA	80 mA		
TX C02 B10 to B60						
TX C03 B10 to B60						
TX C01 C10 to C60	25 mA	50 mA	25 mA	50 mA	3,2 A/ms	2 V/µs
TX C02 C10 to C60					1,6 A/ms	
TX C03 C10 to C60					0,6 A/ms	
TX C01 D10 to D60	25 mA	50 mA	25 mA	50 mA		
TX C02 D10 to D60						
TX C03 D10 to D60						
TX C01 E10 to E60	10 mA	15 mA	10 mA	20 mA	3,2 A/ms	2 V/µs
TX C02 E10 to E60					1,6 A/ms	
TX C03 E10 to E60					0,6 A/ms	
TX C01 F10 to F60	10 mA	15 mA	10 mA	20 mA		
TX C02 F10 to F60						
TX C03 F10 to F60						

TX C01 A10	C66048-A1500-A8	TX C01 C10	C66048-A1500-A27	TX C01 E10	C66048-A1500-A37
TX C01 A20	C66048-A1500-A7	TX C01 C20	C66048-A1500-A26	TX C01 E20	C66048-A1500-A36
TX C01 A40	C66048-A1500-A6	TX C01 C40	C66048-A1500-A25	TX C01 E40	C66048-A1500-A35
TX C01 A50	C66048-A1500-A5	TX C01 C50	C66048-A1500-A24	TX C01 E50	C66048-A1500-A34
TX C01 A60	C66048-A1500-A4	TX C01 C60	C66048-A1500-A23	TX C01 E60	C66048-A1500-A33
TX C01 B10	C66048-A1500-A22	TX C01 D10	C66048-A1500-A32	TX C01 F10	C66048-A1500-A42
TX C01 B20	C66048-A1500-A21	TX C01 D20	C66048-A1500-A31	TX C01 F20	C66048-A1500-A41
TX C01 B40	C66048-A1500-A20	TX C01 D40	C66048-A1500-A30	TX C01 F40	C66048-A1500-A40
TX C01 B50	C66048-A1500-A19	TX C01 D50	C66048-A1500-A29	TX C01 F50	C66048-A1500-A39
TX C01 B60	C66048-A1500-A18	TX C01 D60	C66048-A1500-A28	TX C01 F60	C66048-A1500-A38
TX C02 A10	C66048-A1501-A2	TX C02 C10	C66048-A1501-A27	TX C02 E10	C66048-A1501-A37
TX C02 A20	C66048-A1501-A3	TX C02 C20	C66048-A1501-A26	TX C02 E20	C66048-A1501-A36
TX C02 A40	C66048-A1501-A4	TX C02 C40	C66048-A1501-A25	TX C02 E40	C66048-A1501-A35
TX C02 A50	C66048-A1501-A5	TX C02 C50	C66048-A1501-A24	TX C02 E50	C66048-A1501-A34
TX C02 A60	C66048-A1501-A6	TX C02 C60	C66048-A1501-A23	TX C02 E60	C66048-A1501-A33
TX C02 B10	C66048-A1501-A22	TX C02 D10	C66048-A1501-A32	TX C02 F10	C66048-A1501-A42
TX C02 B20	C66048-A1501-A21	TX C02 D20	C66048-A1501-A31	TX C02 F20	C66048-A1501-A41
TX C02 B40	C66048-A1501-A20	TX C02 D40	C66048-A1501-A30	TX C02 F40	C66048-A1501-A40
TX C02 B50	C66048-A1501-A19	TX C02 D50	C66048-A1501-A29	TX C02 F50	C66048-A1501-A39
TX C02 B60	C66048-A1501-A18	TX C02 D60	C66048-A1501-A28	TX C02 F60	C66048-A1501-A38
TX C03 A10	C66048-A1502-A6	TX C03 C10	C66048-A1502-A16	TX C03 E10	C66048-A1502-A26
TX C03 A20	C66048-A1502-A5	TX C03 C20	C66048-A1502-A15	TX C03 E20	C66048-A1502-A25
TX C03 A40	C66048-A1502-A4	TX C03 C40	C66048-A1502-A14	TX C03 E40	C66048-A1502-A24
TX C03 A50	C66048-A1502-A3	TX C03 C50	C66048-A1502-A13	TX C03 E50	C66048-A1502-A23
TX C03 A60	C66048-A1502-A2	TX C03 C60	C66048-A1502-A12	TX C03 E60	C66048-A1502-A22
TX C03 B10	C66048-A1502-A11	TX C03 D10	C66048-A1502-A21	TX C03 F10	C66048-A1502-A31
TX C03 B20	C66048-A1502-A10	TX C03 D20	C66048-A1502-A20	TX C03 F20	C66048-A1502-A30
TX C03 B40	C66048-A1502-A9	TX C03 D40	C66048-A1502-A19	TX C03 F40	C66048-A1502-A29
TX C03 B50	C66048-A1502-A8	TX C03 D50	C66048-A1502-A18	TX C03 F50	C66048-A1502-A28
TX C03 B60	C66048-A1502-A7	TX C03 D60	C66048-A1502-A17	TX C03 F60	C66048-A1502-A27

Matched heat sinks

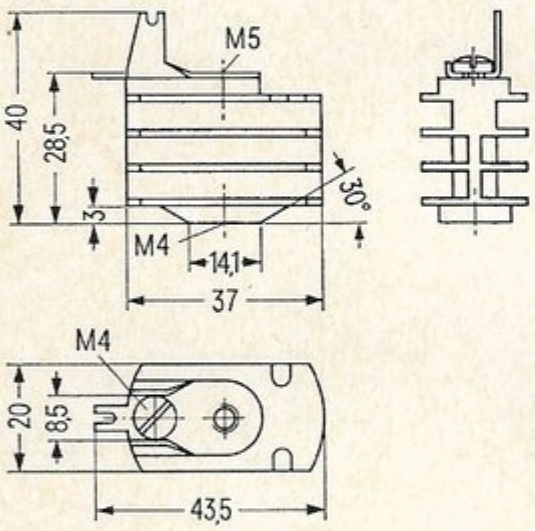
Matched heat sink Type (DIN 41882)	Ordering number	Type of diode	Type of thyristor	Maximum mean forward current for single phase half wave circuit	Inlet air temperature	Cooling
CK 07 (K 15)	C 66055-A 6100-B5	SSi C 13 SSi C 20A	–	4 A 3,8 A	+ 45 °C	natural
CK 08 (K 15)	C 66055-A 6100-B6	SSi C 13 SSi C 20A	–	4 A 3,8 A	+ 45 °C	natural
DK 02 (K 9)	C 66055-A 6101-B1	SSi D 04 SSi D 04A	–	6,5 A	+ 45 °C	natural
DK 03 (K 9)	C 66055-A 6101-B2	SSi D 04 SSi D 04A	–	6,5 A	+ 45 °C	natural
DK 04 (K 9)	C 66055-A 6101-B3	–	BSt C 03	4,5 A	+ 45 °C	natural
EK 02 (K 5)	C 66055-A 6102-B1	SSi E 13/14	–	18 A	+ 45 °C	natural
EK 03 (K 5)	C 66055-A 6102-B2	SSi E 13/14	–	18 A	+ 45 °C	natural
EK 09 (K 5)	C 66055-A 6102-B8	–	BSt C 03 BSt D 03	7 A 8,5 A	+ 45 °C	natural
EK 10 (K 5)	C 66055-A 6102-B9	–	BSt E 02	8 A	+ 45 °C	natural
EK 11 (K 5)	C 66055-A 6102-B10	SSi D 04, D 04A SSi E 20, E 20A	–	8,5 A 12 A	+ 45 °C	natural
EK 12 (K 5)	C 66055-A 6102-B11	SSi D 04, D 04A SSi E 20, E 20A	–	8,5 A 12 A	+ 45 °C	natural
FK 06 (K 3)	C 66055-A 6103-B4	SSi E 13/14 SSi F 20/23	–	24 A 29 A	+ 45 °C	natural
FK 07 (K 3)	C 66055-A 6103-B5	SSi E 13/14 SSi F 20/23	–	24 A 29 A	+ 45 °C	natural
FK 10 (K 3)	C 66055-A 6103-B8	–	BSt E 02 BSt F 04, F 05	11 A 12 A, 13 A	+ 45 °C[1]	natural
FK 11 (K 3)	C 66055-A 6103-B9	SSi E 20	–	16 A	+ 45 °C	natural
FK 12 (K 3)	C 66055-A 6103-B10	SSi E 20		16 A 7 A, 10,5 A	+45 °C	natural
HK 02 (K 1,1)	C 66055-A 6104-B1	SSi L 20/23	 BSt L 24 BSt L 25	85 A 35 A 40 A	+ 45 °C	natural
HK 02 (K 1,1)	C 66055-A 6104-B1	SSi L 20/23	 BSt L 24 BSt L 25	190 A 92 A 97 A	+ 35 °C 35 l/s	forced
HK 05 (K 1,1)	C 66055-A 6104-B3	SSi K 21/23	–	80 A	+ 45 °C	natural
HK 05 (K 1,1)	C 66055-A 6104-B3	SSi K 21/23	–	135 A	+ 35 °C 35 l/s	forced
HK 06 (K 1,1)	C 66055-A 6104-B4	SSi F 20/23	–	46 A	+ 45 °C	natural

Matched heat sink

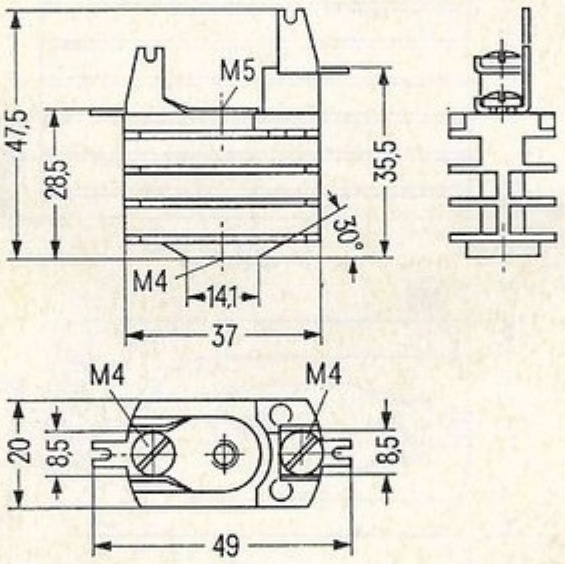
Matched heat sink Type (DIN 41882)	Ordering number	Type of diode	Type of thyristor	Maximum mean forward current for single phase half wave circuit	Inlet air temperature	Cooling
HK 08 (K 1,1)	C 66055-A 6104-B5	–	BSt H 04 BSt H 05	28 A 32 A	+ 45 °C	natural
HK 08 (K 1,1)	C 66055-A 6104-B5	–	BSt H 04 BSt H 05	55 A 57 A	+ 35 °C 35 l/s	forced
HK 10 (K 1,1)	C 66055-A 6104-B6	–	BSt F 04 BSt F 25	18,5 A 20 A	+ 45 °C	natural
HK 10 (K 1,1)	C 66055-A 6104-B6	–	BSt F 04 BSt F 25	30 A 30 A	+ 35 °C 35 l/s	forced
HK 15 (K 1,1)	C 66055-A 6104-B7	SSi L 99	–	90 A	+ 45 °C	natural
HK 15 (K 1,1)	C 66055-A 6104-B7	SSi L 99	–	205 A	+ 35 °C 35 l/s	forced
LK 08 (K 0,55)	C 66055-A 6105-B1	SSi N 20/23	 BSt N 23 BSt N 35	170 A 78 A 90 A	+ 45 °C	natural
LK 08 (K 0,55)	C 66055-A 6105-B1	SSi N 20/23	 BSt N 23 BSt N 35	335 A 167 A 200 A	+ 35 °C 42 l/s	forced
LK 15 (K 0,55)	C 66055-A 6105-B2	–	BSt H 04 BSt H 05	37 A 41 A	+ 45°C	natural
LK 15 (K 0,55)	C 66055-A 6105-B2	–	BSt H 04 BSt H 05	64 A 66 A	+ 35 °C 42 l/s	forced
LK 17 (K 0,55)	C 66055-A 6105-B3	SSi L 20/23	 BSt L 24 BSt L 25	130 A 58 A 65 A	+ 45 °C	natural
LK 17 (K 0,55)	C 66055-A 6105-B3	SSi L 20/23	 BSt L 24 BSt L 25	230 A 118 A 120 A	+ 35 °C 42 l/s	forced
LK 18 (K 0,55)	C 66055-A 6105-B4	SSi L 98 SSi N98 SSi N99	–	155 A 155 A 175 A	+ 45 °C	natural
LK 18 (K 0,55)	C 66055-A 6105-B4	SSi L 98 SSi N98 SSi N99	–	315 A 350 A 400 A	+ 35 °C 100 l/s	forced
NK 08	C 66055-A 6106-B1	SSi N 20/23	 BSt N 23 BSt N 35	195 A 85 A 105 A	+ 45°C	natural
NK 08	C 66055-A 6106-B1	SSi N 20/23	 BSt N 23 BSt N 35	405 A 200 A 245 A	+ 35 °C 55 l/s	forced
NK 12	C 66055-A 6108-D1	–	BSt N 45	92 A	+ 45 °C	natural
NK 12	C 66055-A 6108-D1	–	BSt N 45	280 A	+ 35 °C 45 l/s	forced
NK 13	C 66055-A 6108-D3	–	BSt N 45	330 A	+ 35 °C 70 l/s	forced

Matched heat sink

Matched heat sink Type	Ordering number	Type of diode	Type of thyristor	Maximum mean forward current for single phase half wave circuit	Inlet air temperature	Cooling
PK 01	C 66055-A 6107-D1	SSi P 01		410 A	+ 45 °C	natural
			BSt P 15	232 A		
PK 01	C 66055-A 6107-D1	SSi P 01		900 A	+ 35 °C	forced
			BSt P 15	600 A	140 l/s	
PK 04	C 66055-A 6107-D2	SSi P 01		1000 A	+ 65 °C 6 l/min	forced water
			BSt P 15	750 A		
PK 12	C 66055-A 6107-D4	SSi P 01		350 A	+ 45 °C	natural
			BSt P 15	192 A		
PK 12	C 66055-A 6107-D4	SSi P 01		780 A	+ 35 °C	forced
			BSt P 15	490 A	80 l/s	



CK 07



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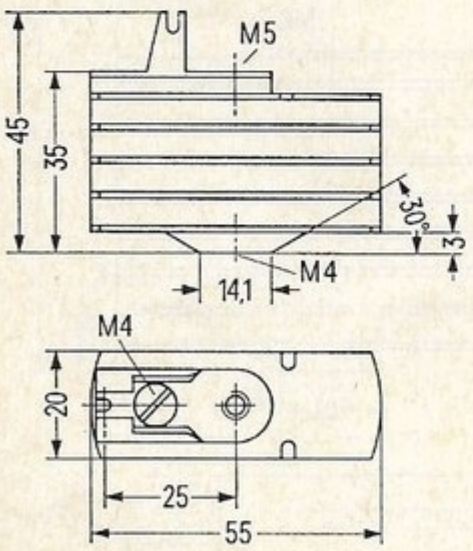

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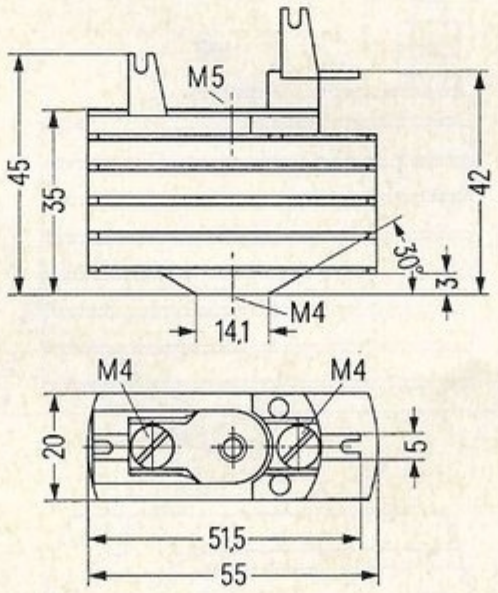

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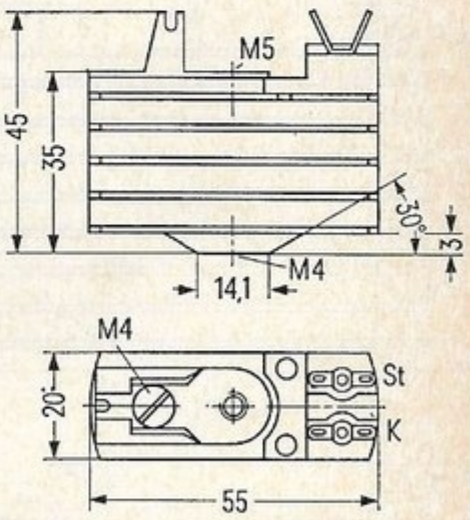
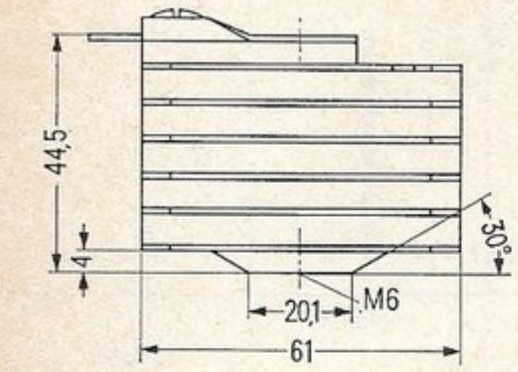
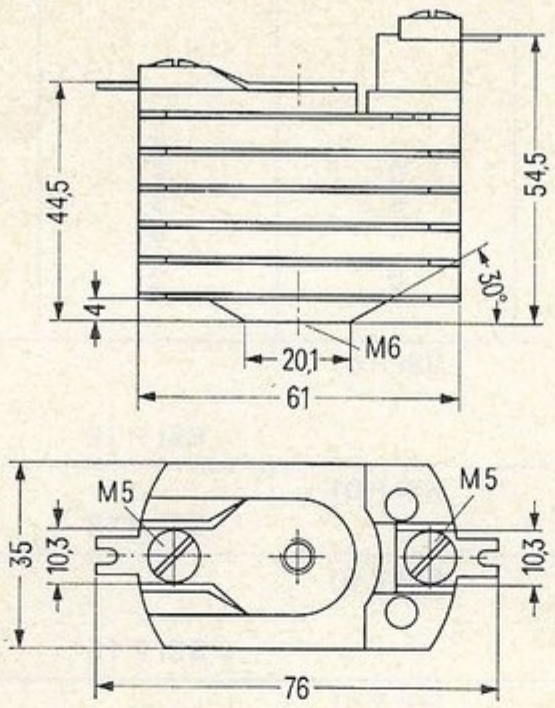


DK 04

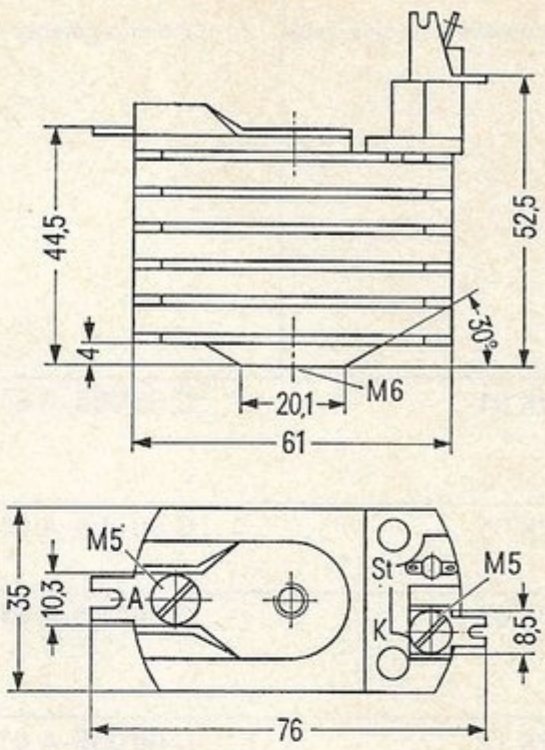
Matched heat sink



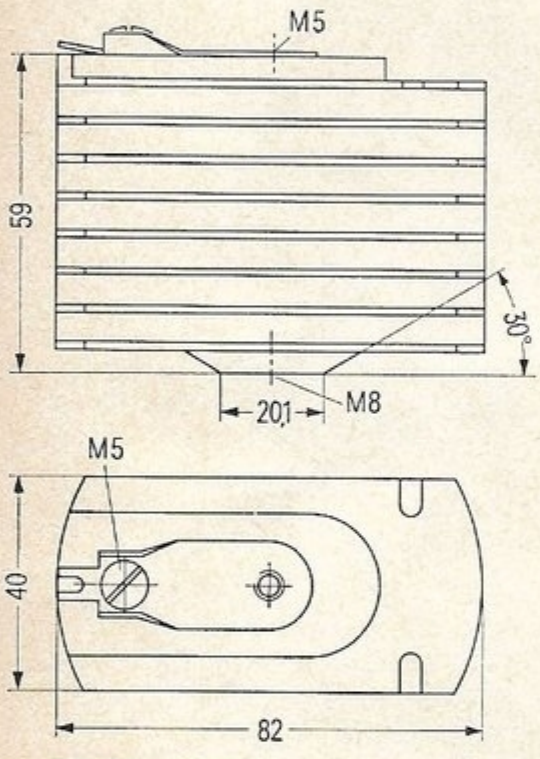
EK 02 (M 8)
EK 11 (M 5)



EK 03 (M 8)
EK 12 (M 5)



EK 09 (M 5)
EK 10 (M 8)



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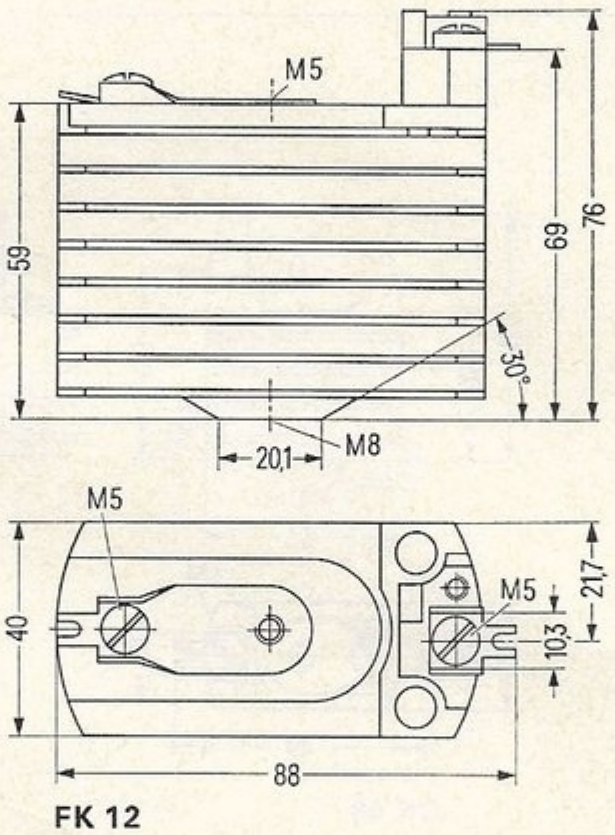
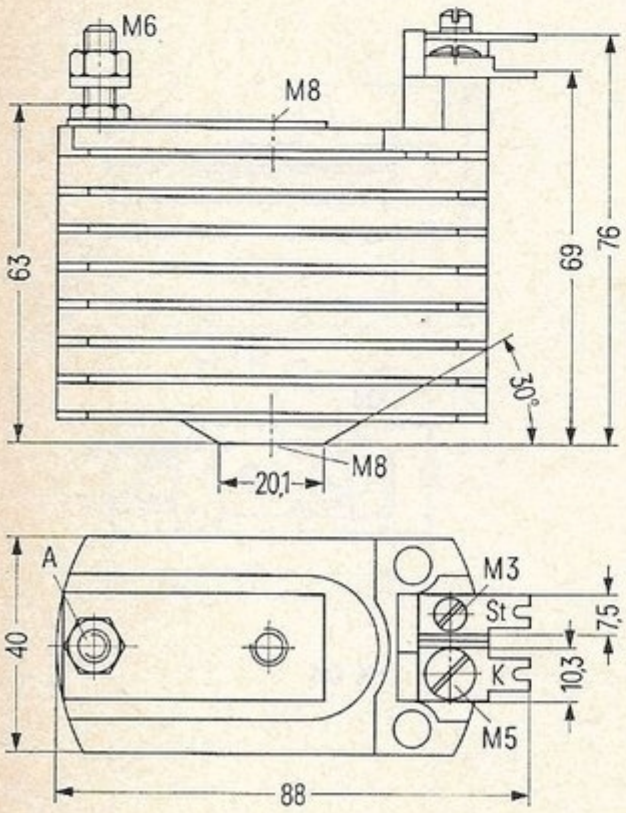


FK 12



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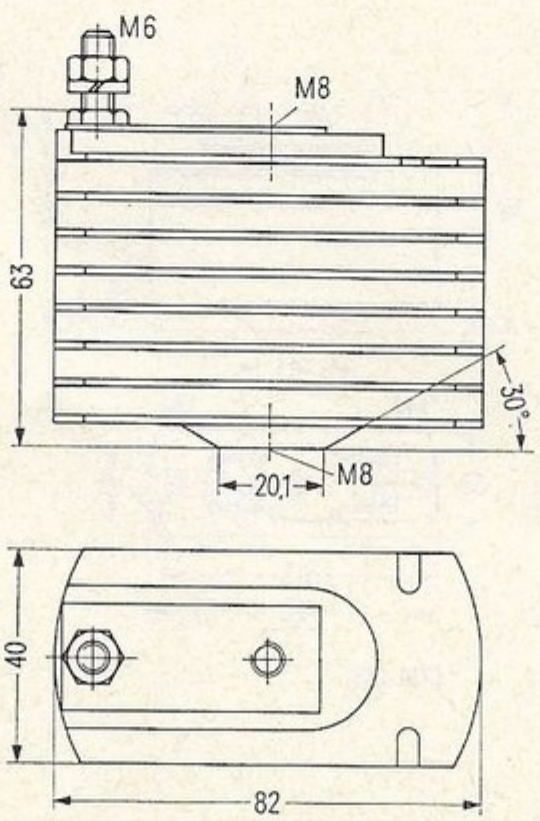

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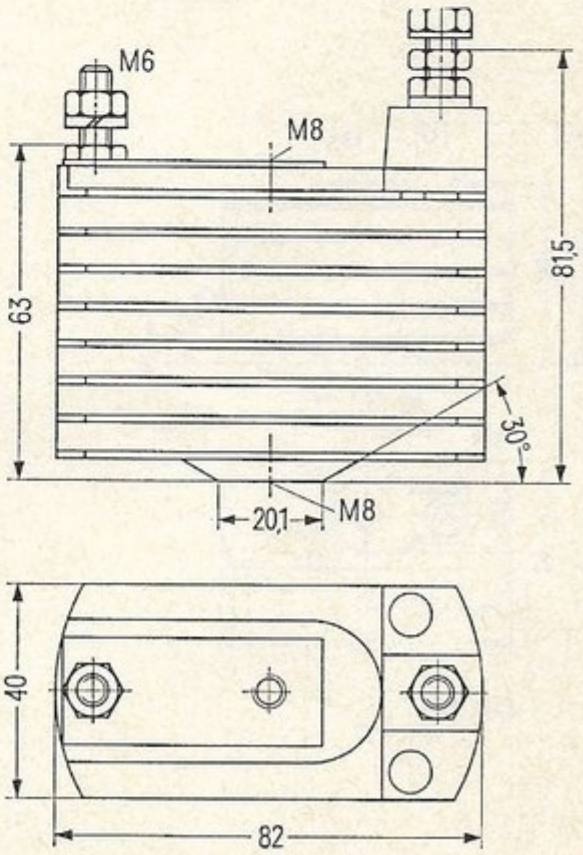
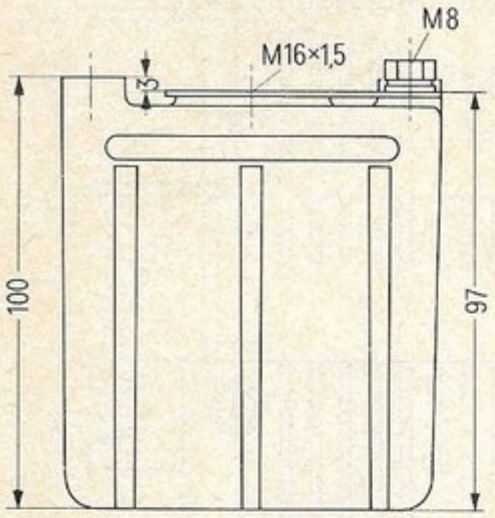
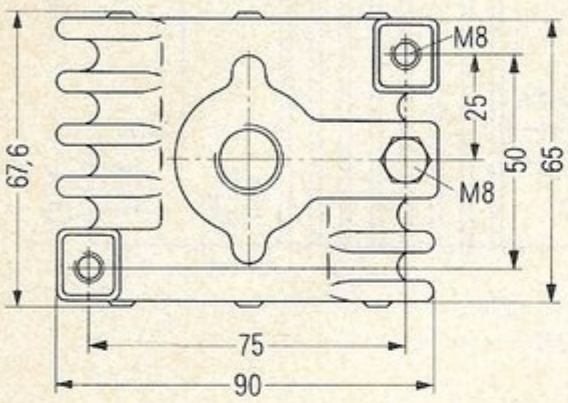


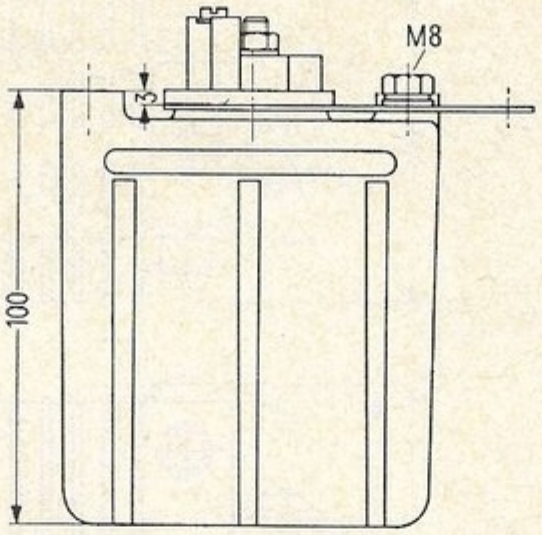
FK 07

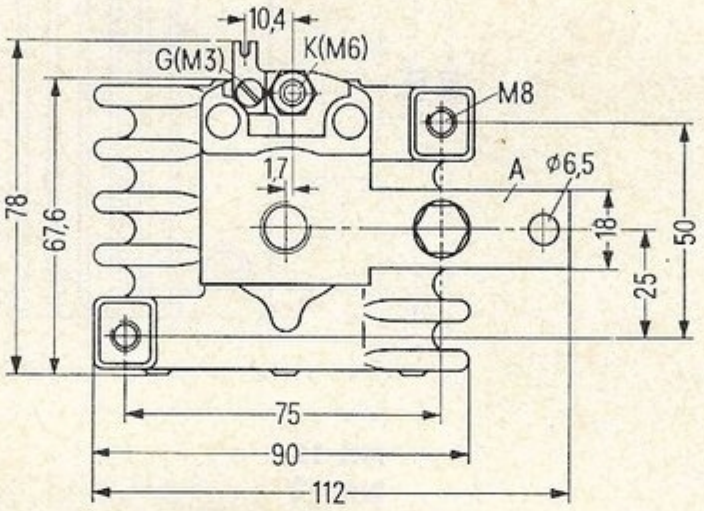
Matched heat sink



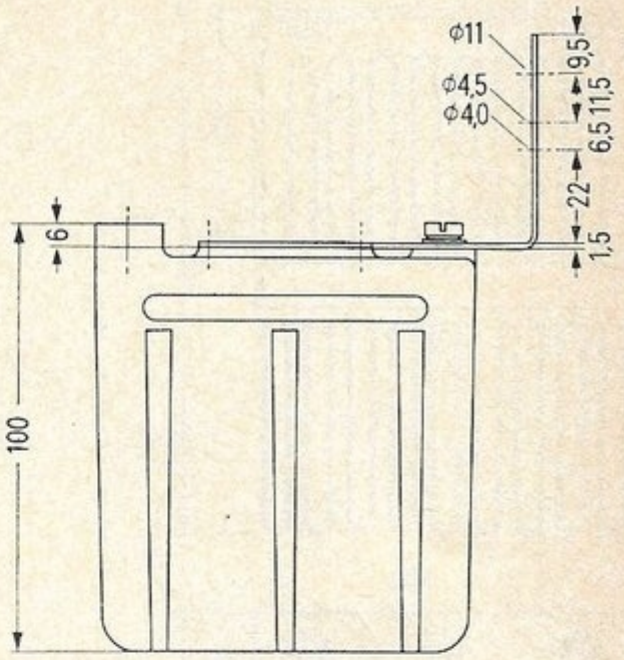


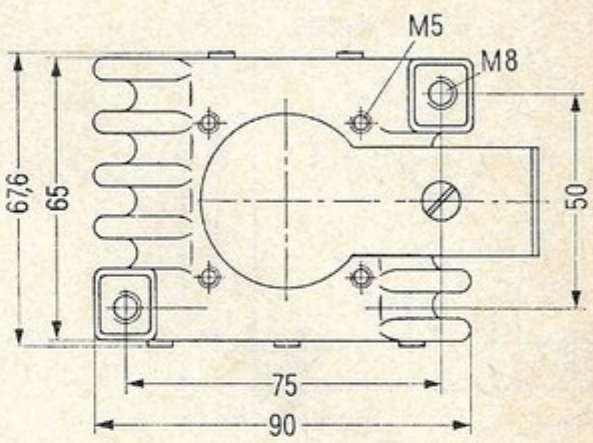
HK 02 (M 16 x 1,5)
HK 05 (M 12)
HK 06 (M 8)



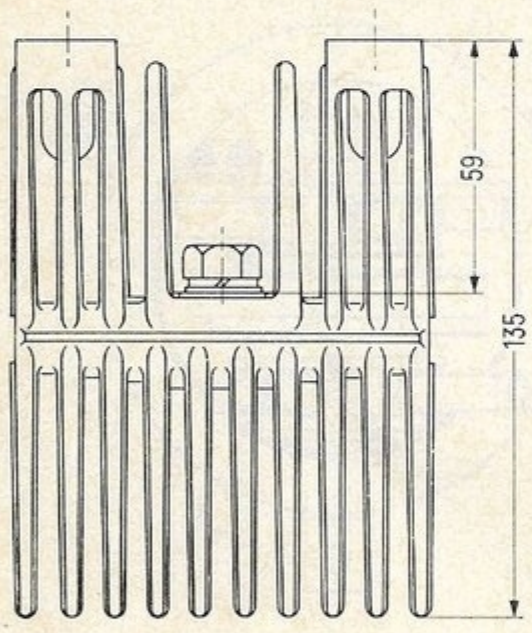


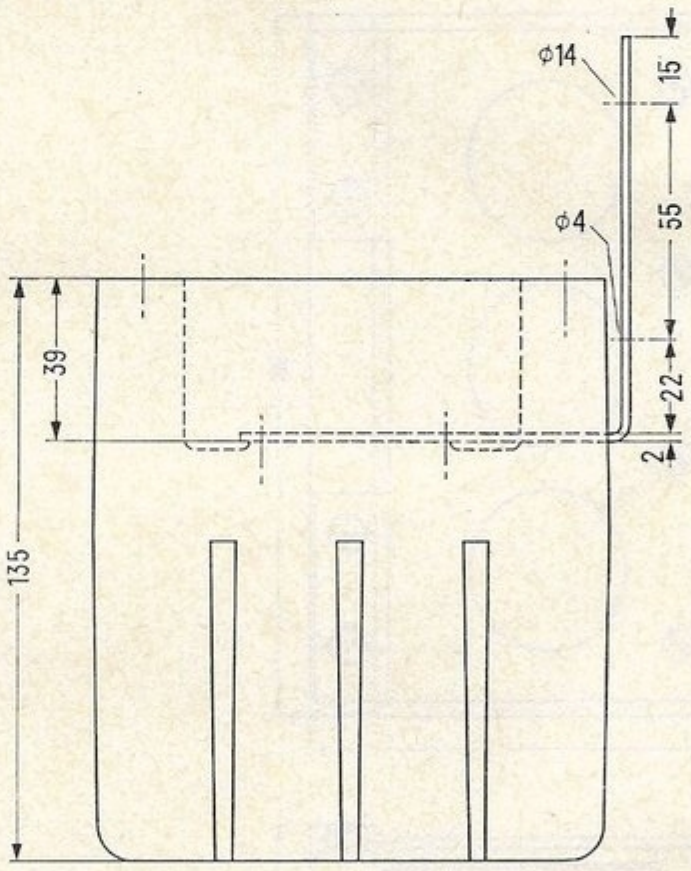
HK 08 (M 12)
HK 10 (M 8)

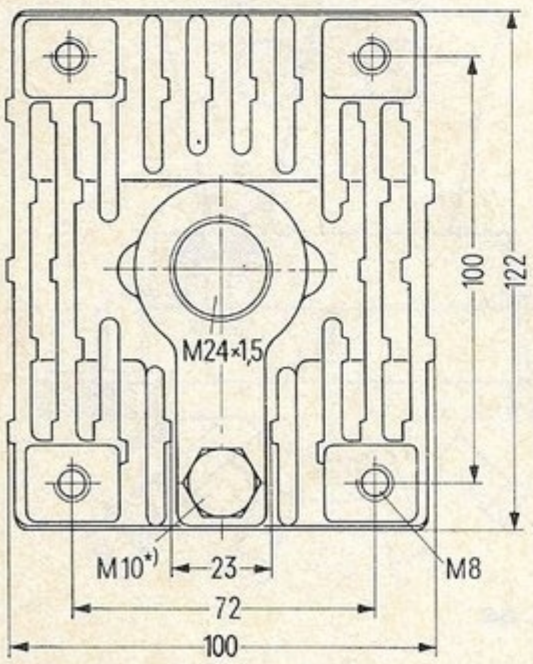




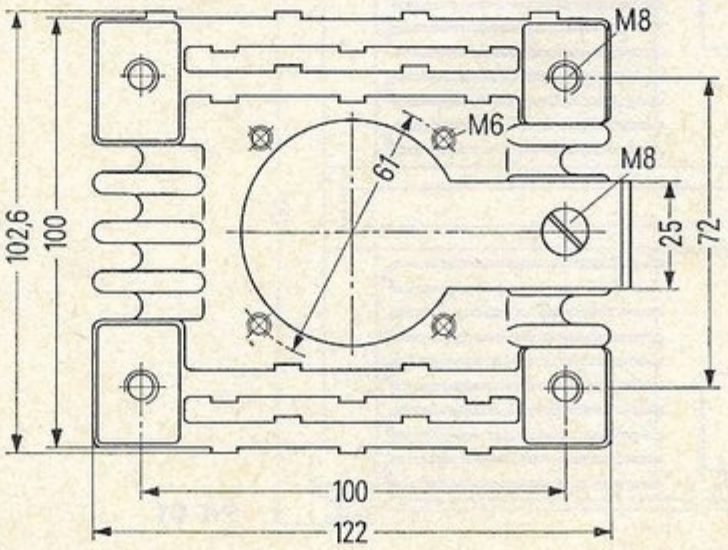
HK 15





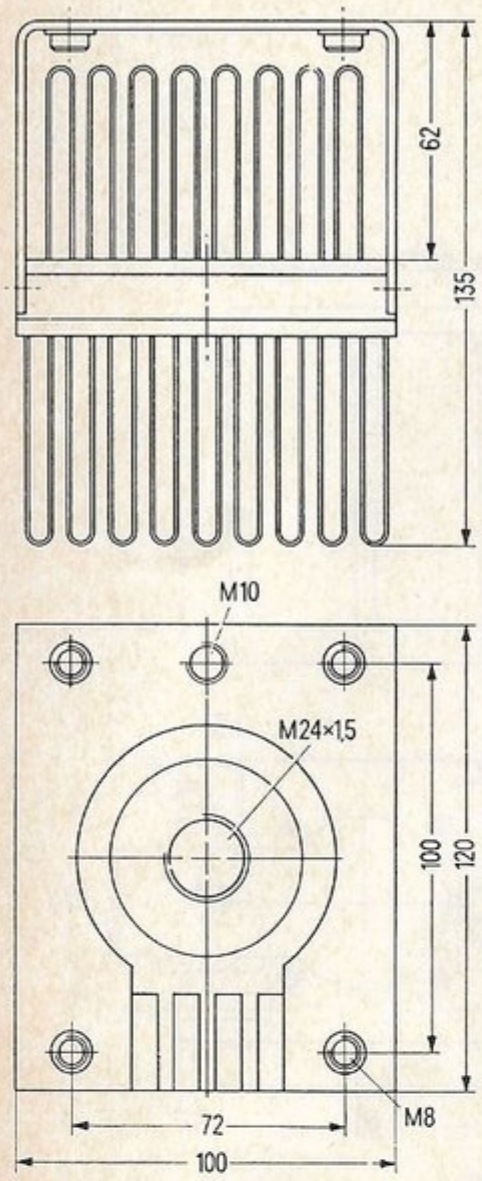


LK 08 (M 24 x 1,5)
LK 15 (M 12)
LK 17 (M 16 x 1,5)

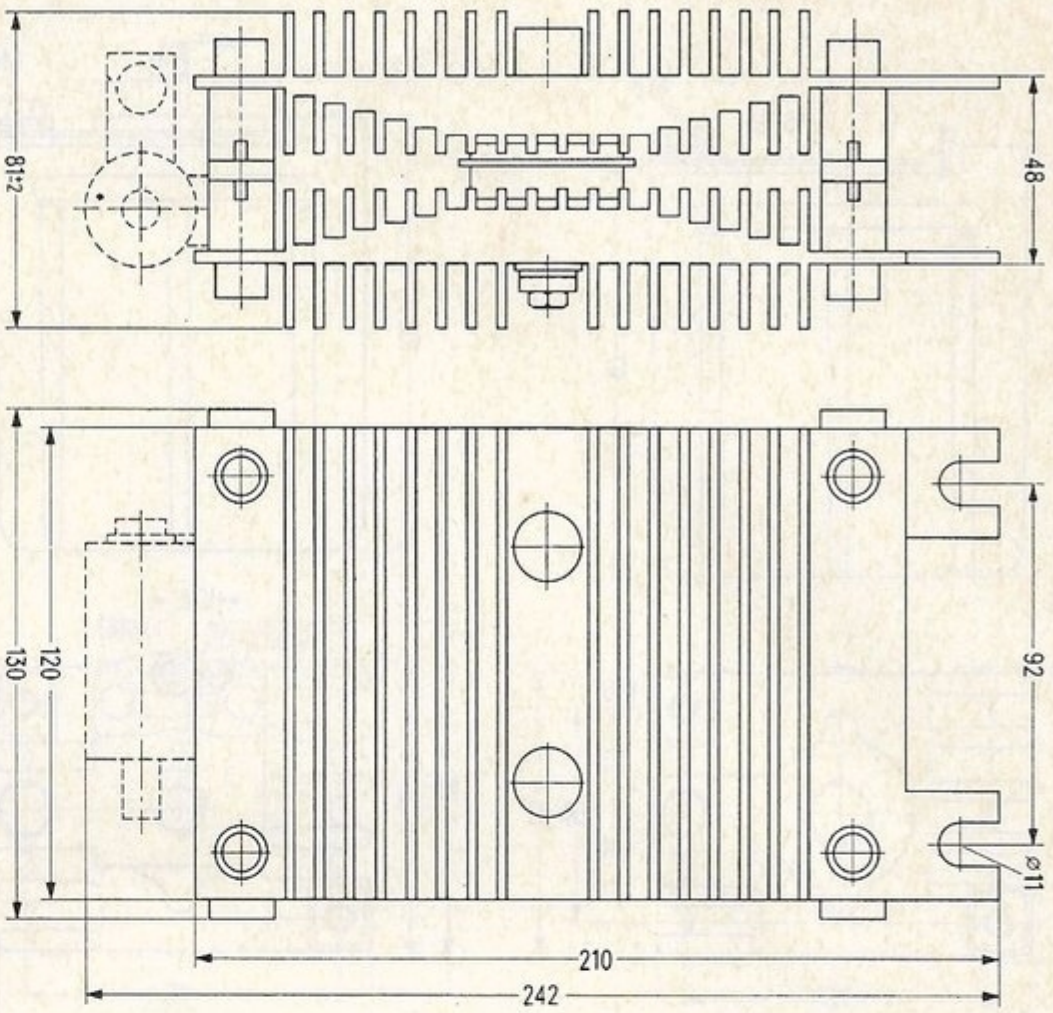


LK 18

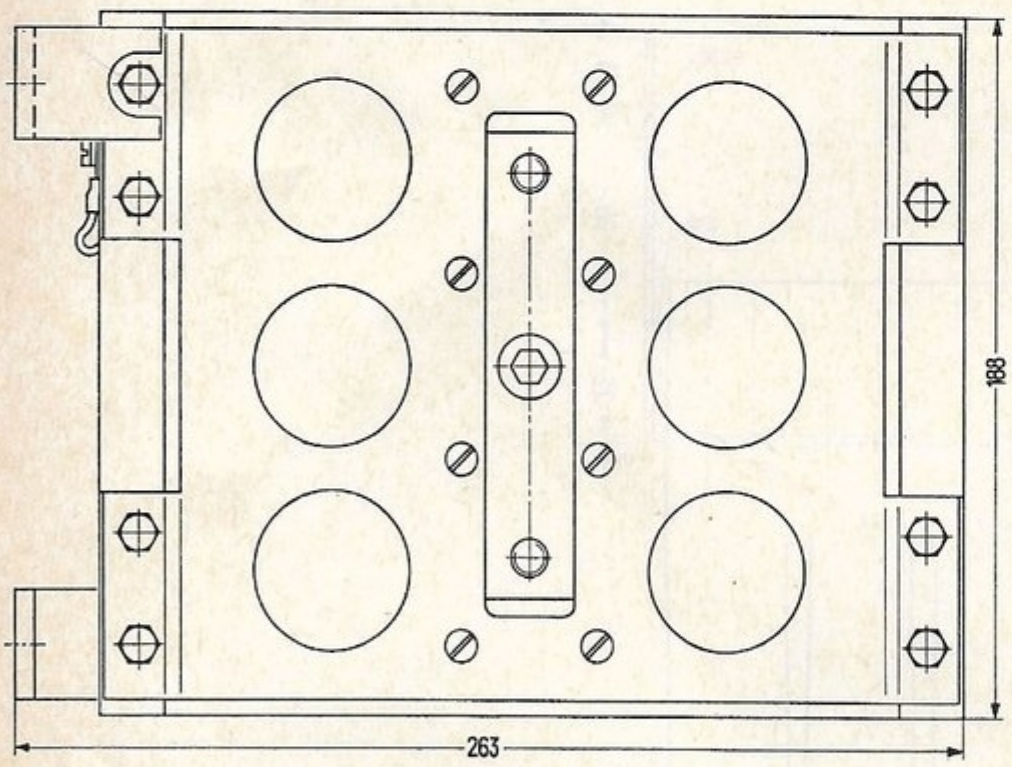
Matched heat sink

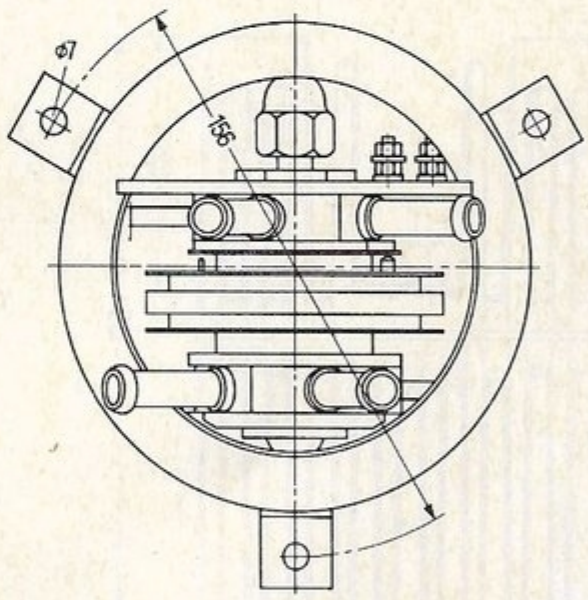


NK 08

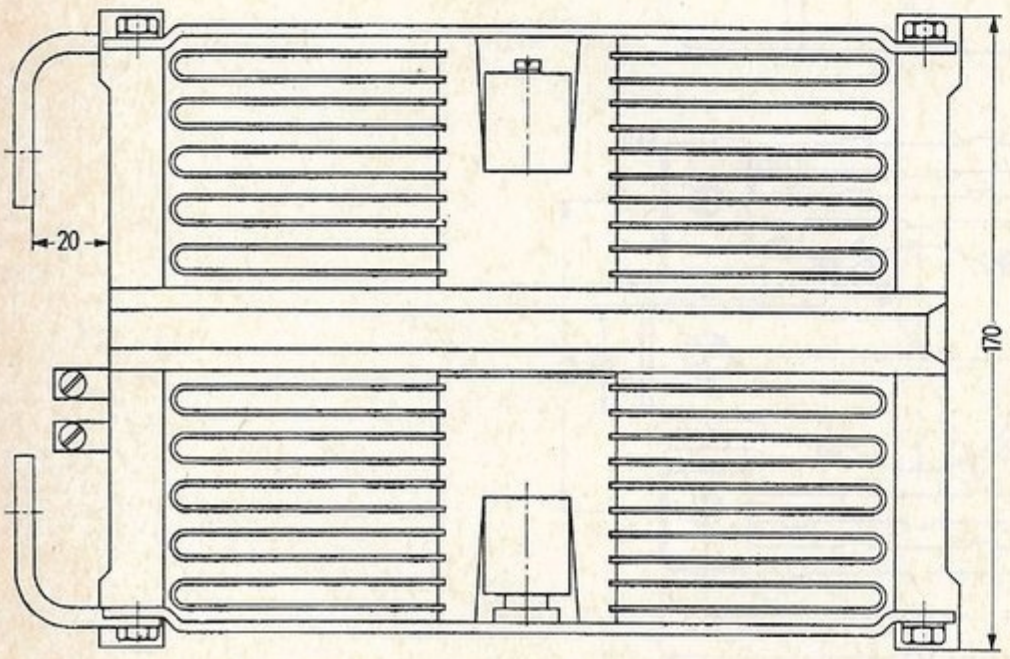


NK 12
NK 13



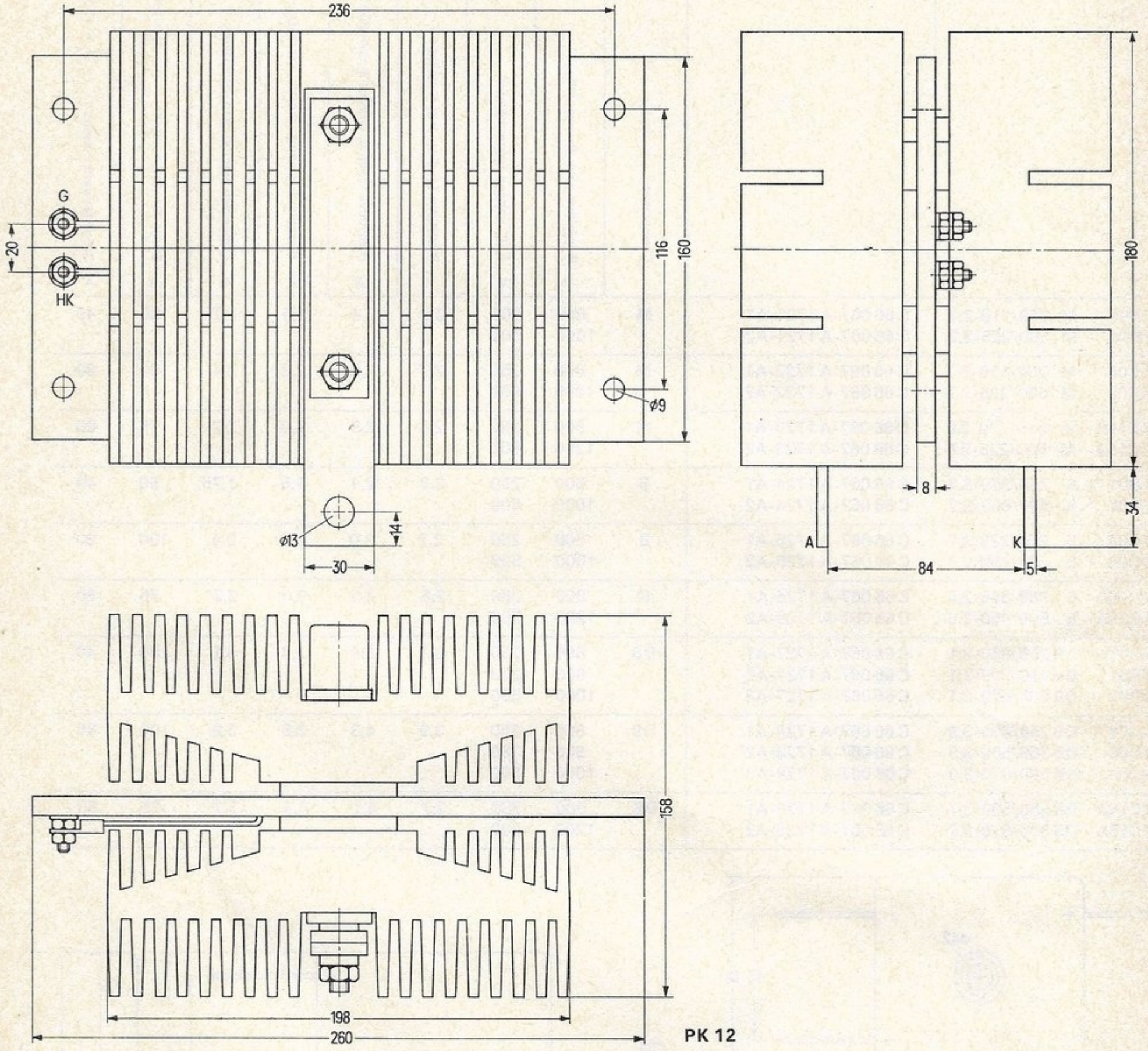


PK 04



PK 01

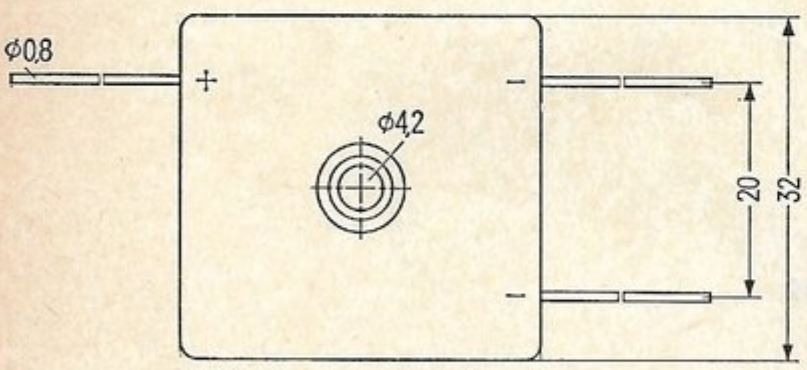
Matched heat sink



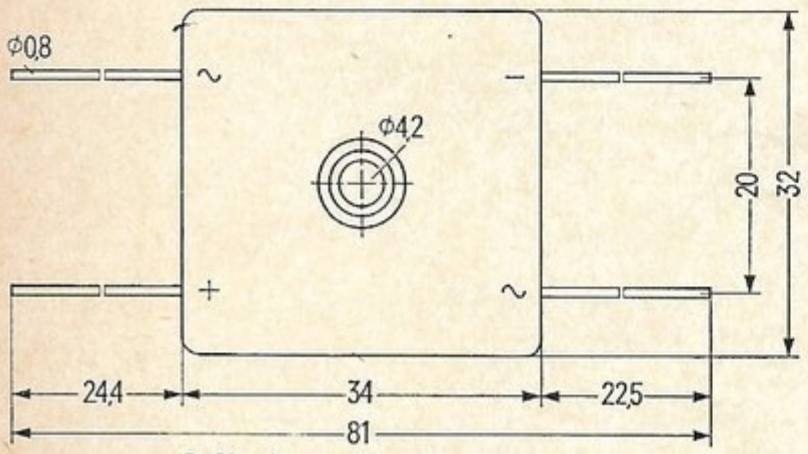
PK 12

Silicon rectifier sets plastic encapsulated

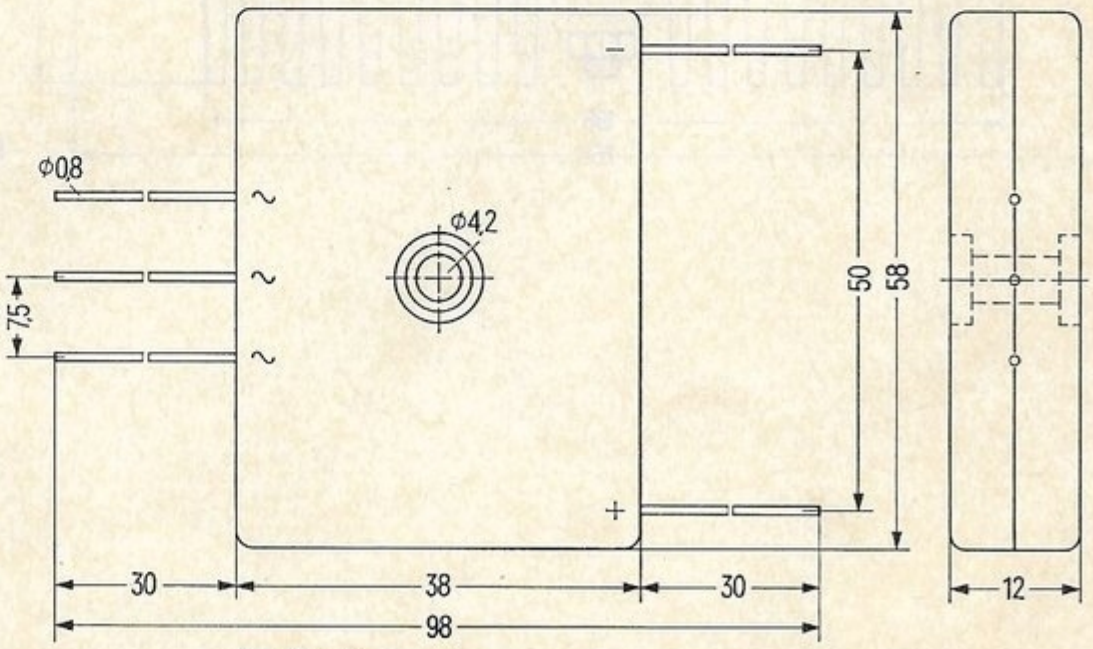
Type	Ordering number	Connection	Repetitive peak reverse voltage V	A. C. voltage recommended V	Max. d.c. current at ambient temperature ϑ_A = 45 °C: Resistitive loading, free installation A	Resistitive loading, chassis installation A	Capacitive loading, chassis installation A	Capacitive loading, free installation A	Surge forward current ϑ_j = 25 °C A	Surge forward current ϑ_j = 150 °C A
SSi 2 B01 - M 250/110-2,2	C 66 067-A 1721-A1	M	600	250	2,2	2,4	1,6	1,75	50	40
SSi 2 B01 - M 500/225-2,2	C 66 067-A 1721-A2		1000	500						
SSi 2 C08 - M 250/110-2,7	C 66 067-A 1722-A1	M	600	250	2,7	3,0	2,2	2,4	100	80
SSi 2 C08 - M 500/225-2,7	C 66 067-A 1722-A2		1000	500						
SSi 2 C15A- M 380/170-2,6	C 66 067-A 1723-A1	M	900	380	2,6	2,9	2,0	2,2	75	60
SSi 2 C15A- M 500/225-2,6	C 66 067-A 1723-A2		1200	500						
SSi 4 B01 - B 250/225-2,2	C 66 067-A 1724-A1	B	600	250	2,2	2,4	1,6	1,75	50	40
SSi 4 B01 - B 500/450-2,2	C 66 067-A 1724-A2		1000	500						
SSi 4 C08 - B 250/225-2,7	C 66 067-A 1725-A1	B	600	250	2,7	3,0	2,2	2,4	100	80
SSi 4 C08 - B 500/450-2,7	C 66 067-A 1725-A2		1000	500						
SSi 4 C15A- B 380/340-2,6	C 66 067-A 1726-A1	B	900	380	2,6	2,9	2,0	2,2	75	60
SSi 4 C15A- B 500/450-2,6	C 66 067-A 1726-A2		1200	500						
SSi 6 B01 - DB 250/330-3,1	C 66 067-A 1727-A1	DB	600	250	3,1	3,4	2,8	3,1	50	40
SSi 6 B01 - DB 380/500-3,1	C 66 067-A 1727-A2		900	380						
SSi 6 B01 - DB 500/670-3,1	C 66 067-A 1727-A3		1000	500						
SSi 6 C08 - DB 250/330-3,9	C 66 067-A 1728-A1	DB	600	250	3,9	4,3	3,5	3,9	100	80
SSi 6 C08 - DB 380/500-3,9	C 66 067-A 1728-A2		900	380						
SSi 6 C08 - DB 500/670-3,9	C 66 067-A 1728-A3		1000	500						
SSi 6 C15A- DB 380/500-3,7	C 66 067-A 1729-A1	DB	900	380	3,7	4,1	3,4	3,7	75	60
SSi 6 C15A- DB 500/670-3,7	C 66 067-A 1729-A2		1200	500						



M-Circuit



B-Circuit



DB-Circuit

Silicon rectifier sets with insulating parts

Silicon-rectifier-assemblies

Type	Ordering number	Connection	Repetitive peak reverse voltage	A. C. voltage recommended	Max. d.c. current at ambient temperature ϑ_A = 45 °C: Resistitive loading, free installation	Max. d.c. current at ambient temperature ϑ_A = 45 °C: Capacitive loading, free installation	Rated d.c. forward current (former designation)	Surge forward current ϑ_j = 25 °C	Surge forward current ϑ_j = 150 °C	Net weight	Number of parts	Dimensions L+a
	C 66117-		V	V	A	A	A	A	A	g		mm
SSi 4 B 01 -B 250/225-2	-A 5602-A9	B	600	250	2	1.5	1.4	50	40	40	2	39
SSi 4 B 01 -B 500/450-2	-A 5602-A1		1000	500	2	1.5	1.4	50	40	40	2	39
SSi 4 B 01 C-B 450/400-2	-A 5602-A6		1000	450	2	1.5	1.4	50	40	45	2	39+4
SSi 4 C 11 -B 250/225-3.2	-A 5602-A2	B	600	250	3.2	2.5	2.2	100	80	40	2	39
SSi 4 C 11 -B 500/450-3.2	-A 5602-A3		1000	500	3.2	2.5	2.2	100	80	40	2	39
SSi 4 C 11 C-B 450/400-3.2	-A 5602-A7		1000	450	3.2	2.5	2.2	100	80	45	2	39+4
SSi 4 C 12 -B 250/225-5	-A 5602-A4	B	600	250	5	4	3.4	100	80	70	2	53
SSi 4 C 12 -B 500/450-5	-A 5602-A5		1000	500	5	4	3.4	100	80	70	2	53
SSi 4 C 12 C-B 450/400-5	-A 5602-A8		1000	450	5	4	3.4	100	80	75	2	53+4
SSi 6 B 01 -DB500/670-3	-A 5604-A1	DB	1000	500	3	2.6	2.0	50	40	55	3	52
SSi 6 B 01 C-DB450/600-3	-A 5604-A9		1000	450	3	2.6	2.0	50	40	60	3	52+4
SSi 6 C 11 -DB500/670-4.6	-A 5604-A2	DB	1000	500	4.6	4.2	3.1	100	80	55	3	52
SSi 6 C 11 C-DB450/600-4.6	-A 5604-A10		1000	450	4.6	4.2	3.1	100	80	60	3	52+4
SSi 6 C 12 -DB500/670-7.2	-A 5604-A3	DB	1000	500	7.2	6.5	4.8	100	80	100	3	76
SSi 6 C 12 C-DB450/600-7.2	-A 5604-A11		1000	450	7.2	6.5	4.8	100	80	105	3	76+4

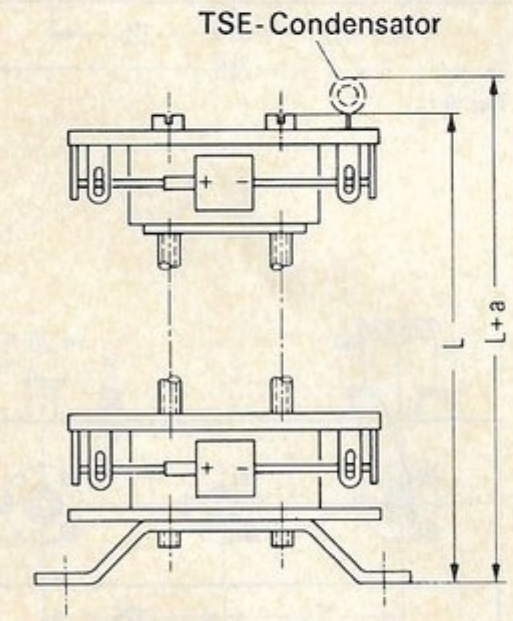


Fig. 1 **SSi . B01 . . -**
(SSi . . C15A–)

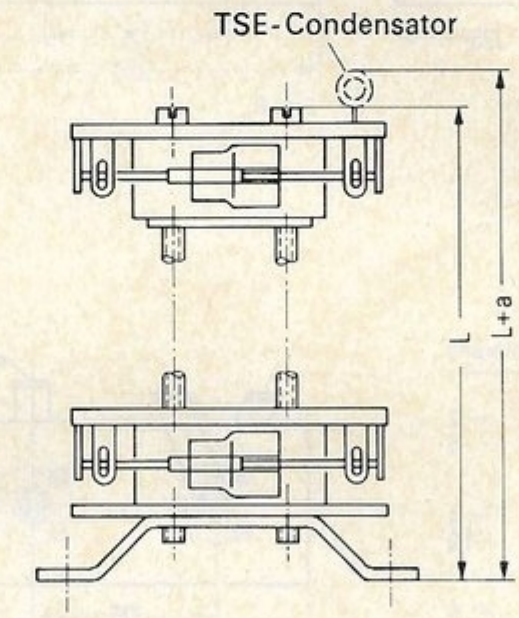


Fig. 2 **SSi . . C11 . . –**
(SSi . . C16A–)

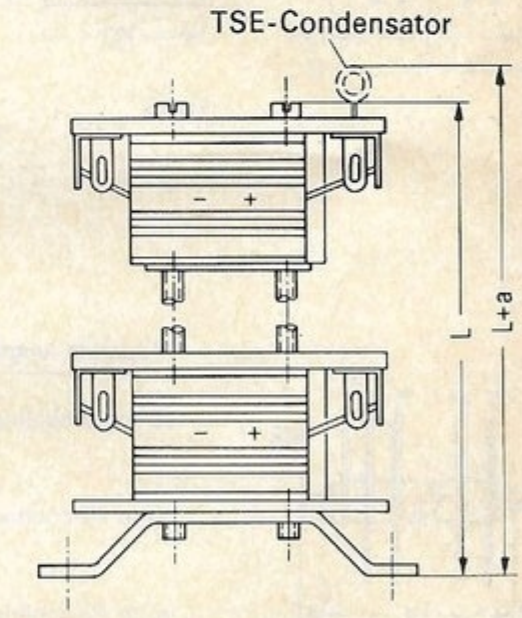


Fig. 3 **SSi . . C12 . .–**
(SSi . . C19A–)

Available on request: sets with insulating parts armed with avalanche diodes

Standard stacks

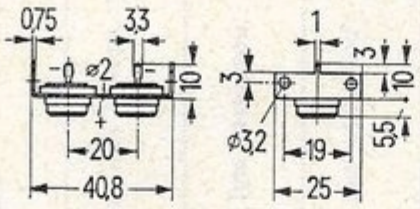


Fig. 1

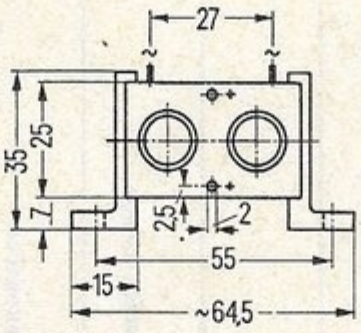


Fig. 2

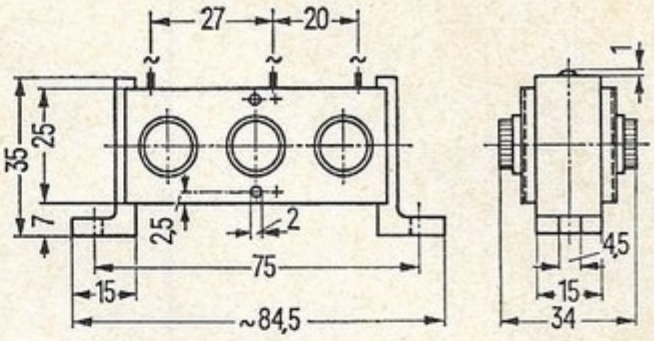


Fig. 3

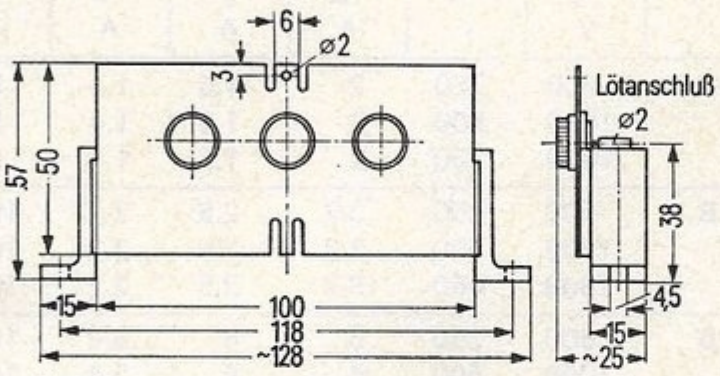


Fig. 4

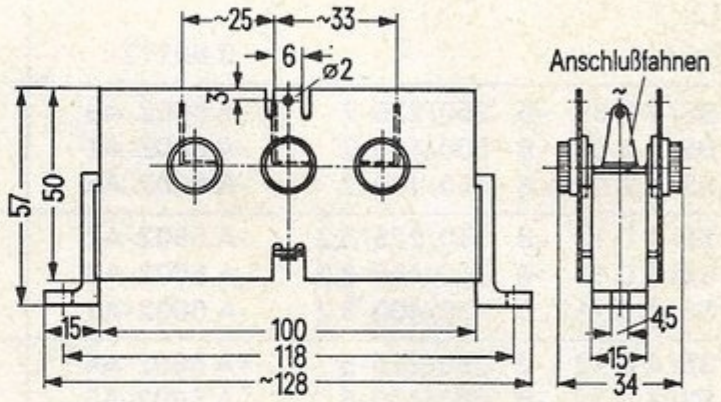
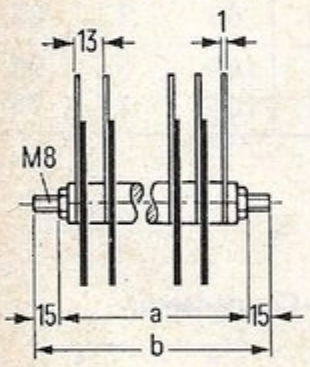


Fig. 5



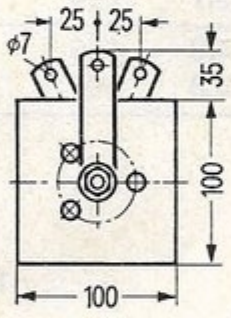


Fig. 6

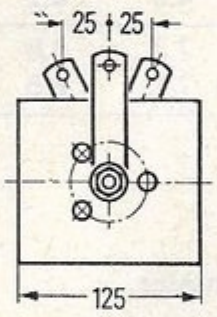


Fig. 7

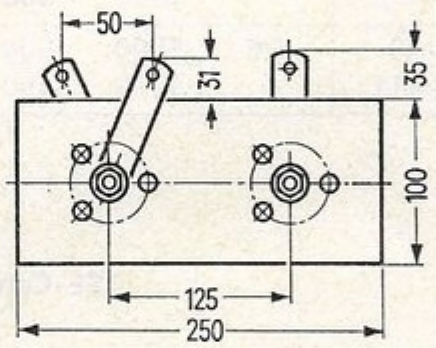


Fig. 8

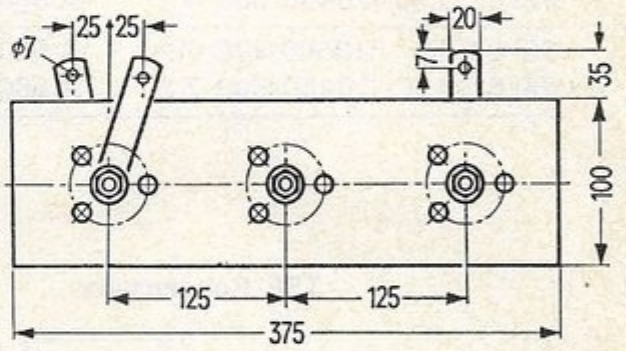
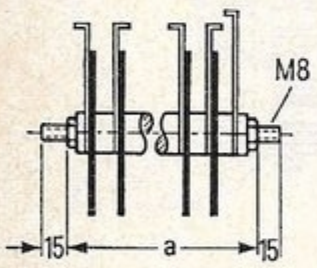


Fig. 9



Mounting length a	Toleranz
up to 10 cooling plates	+ 2 − 5
up to 25 cooling plates	+ 4 −10
up to 42 cooling plates	+ 6 −15

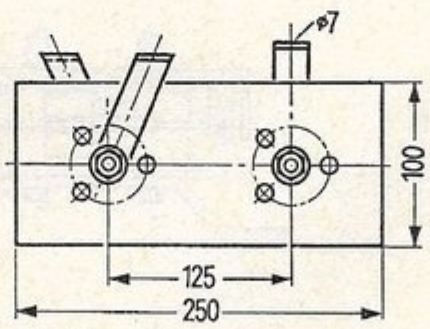


Fig. 10

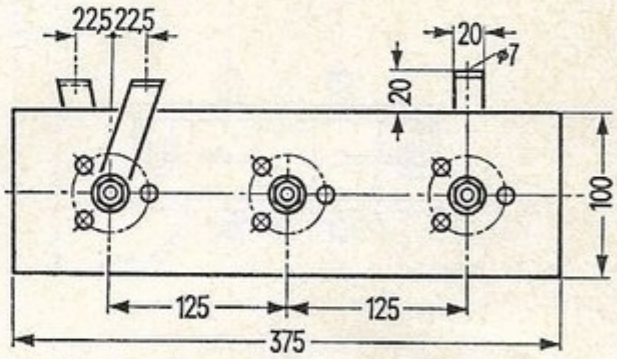
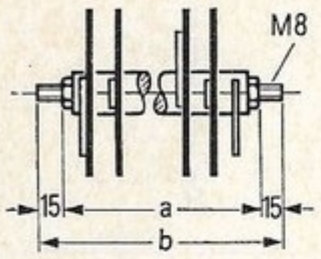


Fig. 11

High current stacks



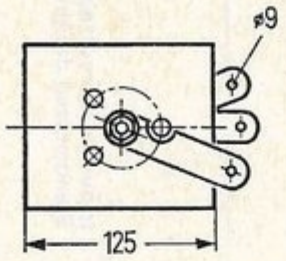


Fig. 12

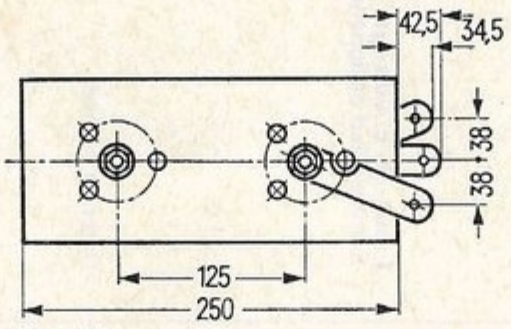


Fig. 13

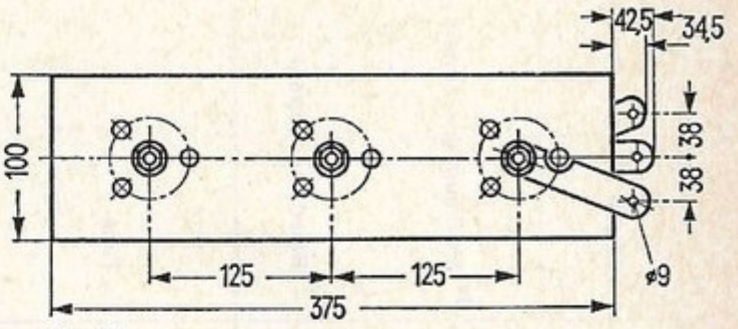
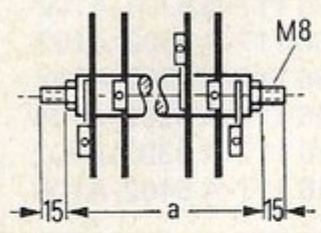


Fig. 14



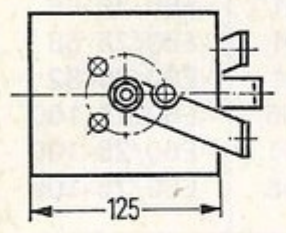


Fig. 15

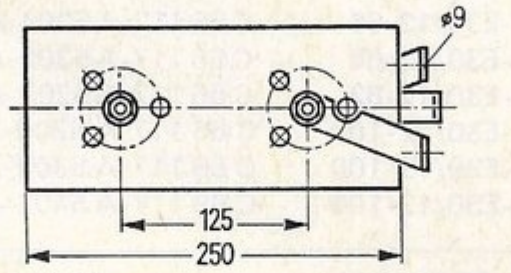


Fig. 16

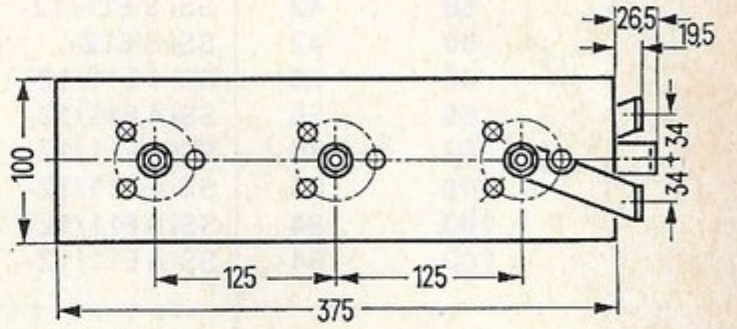


Fig. 17

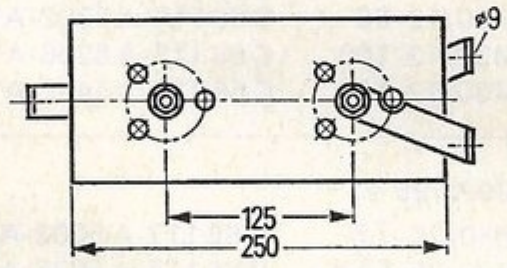


Fig. 18

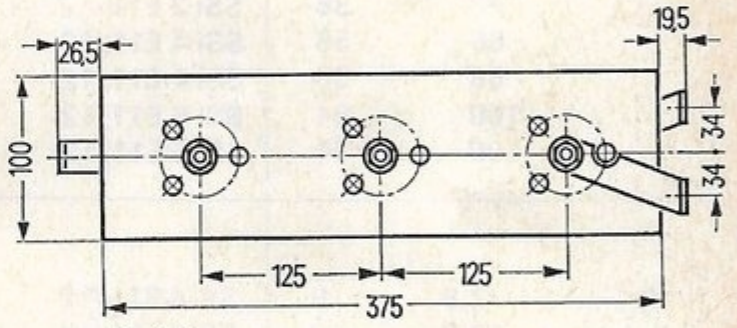


Fig. 19

Standard stacks for natural cooling

Circuit	Maximum d. c. current A	Rated d. c. current A	Type	Input-/d. c. voltage Standardized designation V	Ordering number	Input-/d. c. voltage Standardized designation V	Ordering number
				30 V/12 V		**60 V/25 V**	
E	**18**	15	SSi 1 E12-	-E30/12-18	C 66 117-A 5101-A101	-E60/25-18	C 66 117-A 5101-A102
	21	18	SSi 1 E12-	-E30/12-21	C 66 117-A 5201-A101	-E60/25-21	C 66 117-A 5201-A102
	33	28	SSi 2 E11/12-	-E30/12-33	C 66 117-A 5202-A105	-E60/25-33	C 66 117-A 5202-A106
	33	28	SSi 2 E12-	-E30/12-33	C 66 117-A 5301-A101	-E60/25-33	C 66 117-A 5301-A102
	50	42	SSi 3 E11/12-	-E30/12-50	C 66 117-A 5203-A101	-E60/25-50	C 66 117-A 5203-A102
	50	42	SSi 3 E12-	-E30/12-50	C 66 117-A 5401-A101	-E60/25-50	C 66 117-A 5401-A102
	66	56	SSi 4 E11/12-	-E30/12-66	C 66 117-A 5204-A101	-E60/25-66	C 66 117-A 5204-A102
	66	56	SSi 4 E11/12-	-E30/12-66	C 66 117-A 5302-A101	-E60/25-66	C 66 117-A 5302-A102
	82	70	SSi 5 E11/12-	-E30/12-82	C 66 117-A 5205-A101	-E60/25-82	C 66 117-A 5205-A102
	100	84	SSi 6 E11/12-	-E30/12-100	C 66 117-A 5206-A105	-E60/25-100	C 66 117-A 5206-A106
	100	84	SSi 6 E11/12-	-E30/12-100	C 66 117-A 5303-A101	-E60/25-100	C 66 117-A 5303-A102
	100	84	SSi 6 E11/12-	-E30/12-100	C 66 117-A 5402-A105	-E60/25-100	C 66 117-A 5402-A106
				30 V/12 V		**60 V/25 V**	
M	**7,5**	6	SSi 2 E11-	-M30/12-7,5	C 66 117-A 5001-A201	-M60/25-7,5	C 66 117-A 5001-A202
	13,5	12	SSi 2 E11-	-M30/12-13,5	C 66 117-A 5004-A201	-M60/25-13,5	C 66 117-A 5004-A202
	22	18	SSi 2 E11-	-M30/12-22	C 66 117-A 5101-A201	-M60/25-22	C 66 117-A 5101-A202
	36	30	SSi 2 E11/12-	-M30/12-36	C 66 117-A 5102-A101	-M60/25-36	C 66 117-A 5102-A102
	42	36	SSi 2 E11/12-	-M30/12-42	C 66 117-A 5202-A101	-M60/25-42	C 66 117-A 5202-A102
	42	36	SSi 2 E11-	-M30/12-42	C 66 117-A 5301-A105	-M60/25-42	C 66 117-A 5301-A106
	66	56	SSi 4 E11/12-	-M30/12-66	C 66 117-A 5204-A105	-M60/25-66	C 66 117-A 5204-A106
	66	56	SSi 4 E11/12-	-M30/12-66	C 66 117-A 5302-A105	-M60/25-66	C 66 117-A 5302-A106
	100	84	SSi 6 E11/12-	-M30/12-100	C 66 117-A 5206-A101	-M60/25-100	C 66 117-A 5206-A102
	100	84	SSi 6 E11/12-	-M30/12-100	C 66 117-A 5402-A101	-M60/25-100	C 66 117-A 5402-A102
				30 V/25 V		**60 V/52 V**	
B	**7,5**	6	SSi 4 E11/12-	-B30/25-7,5	C 66 117-A 5002-A201	-B60/52-7,5	C 66 117-A 5002-A202
	13,5	12	SSi 4 E11/12-	-B30/25-13,5	C 66 117-A 5005-A201	-B60/52-13,5	C 66 117-A 5005-A202
	22	18	SSi 4 E11/12-	-B30/25-22	C 66 117-A 5102-A201	-B60/52-22	C 66 117-A 5102-A202
	36	30	SSi 4 E11/12-	-B30/25-36	C 66 117-A 5104-A101	-B60/52-36	C 66 117-A 5104-A102
	42	36	SSi 4 E11/12-	-B30/25-42	C 66 117-A 5204-A109	-B60/52-42	C 66 117-A 5204-A110
	42	36	SSi 4 E11/12-	-B30/25-42	C 66 117-A 5302-A109	-B60/52-42	C 66 117-A 5302-A110
	66	56	SSi 8 E11/12-	-B30/25-66	C 66 117-A 5208-A101	-B60/52-66	C 66 117-A 5208-A102
	66	56	SSi 8 E11/12-	-B30/25-66	C 66 117-A 5304-A101	-B60/52-66	C 66 117-A 5304-A102
	100	84	SSi 12 E11/12-	-B30/25-100	C 66 117-A 5212-A101	-B60/52-100	C 66 117-A 5212-A102
	100	84	SSi 12 E11/12-	-B30/25-100	C 66 117-A 5404-A101	-B60/52-100	C 66 117-A 5404-A102
	133	112	SSi 16 E11/12-	-B30/25-133	C 66 117-A 5308-A101	-B60/52-133	C 66 117-A 5308-A102
	200	168	SSi 24 E11/12-	-B30/25-200	C 66 117-A 5312-A101	-B60/52-200	C 66 117-A 5312-A102
	200	168	SSi 24 E11/12-	-B30/25-200	C 66 117-A 5408-A101	-B60/52-200	C 66 117-A 5408-A102
	266	225	SSi 32 E11/12-	-B30/25-266	C 66 117-A 5316-A101	-B60/52-266	C 66 117-A 5316-A102
	300	250	SSi 36 E11/12-	-B30/25-300	C 66 117-A 5412-A101	-B60/52-300	C 66 117-A 5412-A102
				30 V/19 V		**60 V/39 V**	
S	**15**	12,5	SSi 3 E11-	-S30/19-15	C 66 117-A 5004-A301	-S60/39-15	C 66 117-A 5004-A302
	50	42	SSi 3 E11/12-	-S30/19-50	C 66 117-A 5103-A101	-S60/39-50	C 66 117-A 5103-A102
	62	50	SSi 3 E11/12-	-S30/19-62	C 66 117-A 5203-A105	-S60/39-62	C 66 117-A 5203-A106
	100	80	SSi 6 E11/12-	-S30/19-100	C 66 117-A 5206-A109	-S60/39-100	C 66 117-A 5206-A110
	100	80	SSi 6 E11/12-	-S30/19-100	C 66 117-A 5303-A105	-S60/39-100	C 66 117-A 5303-A106
	150	120	SSi 9 E11/12-	-S30/19-150	C 66 117-A 5209-A101	-S60/39-150	C 66 117-A 5209-A102
	150	120	SSi 9 E11/12-	-S30/19-150	C 66 117-A 5403-A101	-S60/39-150	C 66 117-A 5403-A102
	200	160	SSi 12 E11/12-	-S30/19-200	C 66 117-A 5212-A105	-S60/39-200	C 66 117-A 5212-A106
	200	160	SSi 12 E11/12-	-S30/19-200	C 66 117-A 5306-A101	-S60/39-200	C 66 117-A 5306-A102
	300	240	SSi 18 E11/12-	-S30/19-300	C 66 117-A5309-A101	-S60/39-300	C 66 117-A5309-A102
	300	240	SSi 18 E11/12-	-S30/19-300	C 66 117-A5406-A116	-S60/39-300	C 66 117-A5406-A117
	400	320	SSi 24 E11/12-	-S30/19-400	C 66 117-A5312-A126	-S60/39-400	C 66 117-A5312-A127

Input-/d. c. voltage Standardized designation V	Ordering number	Input-/d. c. voltage Standardized designation V	Ordering number	Cooling plates per stack	Diodes per cooling plate	Net weight kg	page/figure	Mounting dimensions a mm
125 V/55 V		**250 V/110 V**						
-E125/55-18	C 66 117-A 5101-A103	-E250/110-18	C 66 117-A 5101-A104	1	1	0,12	118/6	41
-E125/55-21	C 66 117-A 5201-A103	-E250/110-21	C 66 117-A 5201-A104	1	1	0,13	118/7	41
-E125/55-33	C 66 117-A 5202-A107	-E250/110-33	C 66 117-A 5202-A108	2	1	0,21	118/7	55
-E125/55-33	C 66 117-A 5301-A103	-E250/110-33	C 66 117-A 5301-A104	1	2	0,24	118/8	41
-E125/55-50	C 66 117-A 5203-A103	-E250/110-50	C 66 117-A 5203-A104	3	1	0,29	118/7	70
-E125/55-50	C 66 117-A 5401-A103	-E250/110-50	C 66 117-A 5401-A104	1	3	0,31	118/9	41
-E125/55-66	C 66 117-A 5204-A103	-E250/110-66	C 66 117-A 5204-A104	4	1	0,37	118/7	80
-E125/55-66	C 66 117-A 5302-A103	-E250/110-66	C 66 117-A 5302-A104	2	2	0,39	118/10	55
-E125/55-82	C 66 117-A 5205-A103	On Request[1]) see page 123		5	1	0,45	118/7	95
-E125/55-100	C 66 117-A 5206-A107			6	1	0,53	118/7	105
-E125/55-100	C 66 117-A 5303-A103			3	2	0,56	118/8	68
-E125/55-100	C 66 117-A 5402-A107			2	3	0,53	118/11	55
125 V/55 V		**250 V/110 V**						
-M125/55- 7,5	C 66 117-A 5001-A203	-M250/110-7,5	C 66 117-A 5001-A204	1	2	0,03	118/1	—
-M125/55-13,5	C 66 117-A 5004-A203	-M250/110-13,5	C 66 117-A 5004-A204	1	2	0,05	118/4	—
-M125/55-22	C 66 117-A 5101-A203	-M250/110-22	C 66 117-A 5101-A204	1	2	0,15	118/6	55
-M125/55-36	C 66 117-A 5102-A103	-M250/110-36	C 66 117-A 5102-A104	2	1	0,2	118/6	55
-M125/55-42	C 66 117-A 5202-A103	-M250/110-42	C 66 117-A 5202-A104	2	1	0,22	118/7	55
-M125/55-42	C 66 117-A 5301-A107	-M250/110-42	C 66 117-A 5301-A108	1	2	0,25	118/8	41
-M125/55-66	C 66 117-A 5204-A107	-M250/110-66	C 66 117-A 5204-A108	4	1	0,35	119/12	80
-M125/55-66	C 66 117-A 5302-A107	-M250/110-66	C 66 117-A 5302-A108	2	2	0,41	118/10	55
-M125/55-100	C 66 117-A 5206-A103	-M250/110-100	C 66 117-A 5206-A104	6	1	0,5	118/7	105
-M125/55-100	C 66 117-A 5402-A103	-M250/110-100	C 66 117-A 5402-A104	2	3	0,55	118/9	55
125 V/110 V		**250 V/225 V**						
-B125/110-7,5	C 66 117-A 5002-A203	-B250/225-7,5	C 66 117-A 5002-A104	2	2	0,06	118/2	—
-B125/110-13,5	C 66 117-A 5005-A203	-B250/225-13,5	C 66 117-A 5005-A204	2	2	0,12	118/5	—
-B125/110-22	C 66 117-A 5102-A203	-B250/225-22	C 66 117-A 5102-A204	2	2	0,24	118/6	77
-B125/110-36	C 66 117-A 5104-A103	-B250/225-36	C 66 117-A 5104-A104	4	1	0,33	118/6	80
-B125/110-42	C 66 117-A 5204-A111	-B250/225-42	C 66 117-A 5204-A112	4	1	0,37	118/7	80
-B125/110-42	C 66 117-A 5302-A111	-B250/225-42	C 66 117-A 5302-A112	2	2	0,44	118/8	77
-B125/110-66	C 66 117-A 5208-A103	-B250/225-66	C 66 117-A 5208-A104	8	1	0,65	118/7	131
-B125/110-66	C 66 117-A 5304-A103	-B250/225-66	C 66 117-A 5304-A104	4	2	0,85	118/8	80
-B125/110-100	C 66 117-A 5212-A103	-B250/225-100	C 66 117-A 5212-A104	12	1	0,93	118/7	182
-B125/110-100	C 66 117-A 5404-A103	-B250/225-100	C 66 117-A 5404-A104	4	3	1,00	118/9	80
-B125/110-133	C 66 117-A 5308-A103	-B250/225-133	C 66 117-A 5308-A104	8	2	1,42	118/8	131
-B125/110-200	C 66 117-A 5312-A103	On Request[1]) see page 123		12	2	2,0	118/8	182
-B125/110-200	C 66 117-A 5408-A103			8	3	2,0	118/9	131
-B125/110-266	C 66 117-A 5316-A103			16	2	2,6	118/8	230
-B125/110-300	C 66 117-A 5412-A103			12	3	3,0	118/9	182
125 V/85 V		**250 V/170 V**						
-S125/85-15	C 66 117-A 5004-A303	-S250/170-15	C 66 117-A 5004-A304	1	3	0,08	118/4	—
-S125/85-50	C 66 117-A 5103-A103	-S250/170-50	C 66 117-A 5103-A104	3	1	0,27	118/6	80
-S125/85-62	C 66 117-A 5203-A107	-S250/170-62	C 66 117-A 5203-A108	3	1	0,3	118/7	80
-S125/85-100	C 66 117-A 5206-A111	-S250/170-100	C 66 117-A 5206-A112	6	1	0,52	118/7	105
-S125/85-100	C 66 117-A 5303-A107	-S250/170-100	C 66 117-A 5303-A108	3	2	0,69	118/8	80
-S125/85-150	C 66 117-A 5209-A103	-S250/170-150	C 66 117-A 5209-A104	9	1	0,72	118/7	170
-S125/85-150	C 66 117-A 5403-A103	-S250/170-150	C 66 117-A 5403-A104	3	3	1,0	118/9	80
-S125/85-200	C 66 117-A 5212-A107	-S250/170-200	C 66 117-A 5212-A108	12	1	1,0	118/7	182
-S125/85-200	C 66 117-A 5306-A103	-S250/170-200	C 66 117-A 5306-A104	6	2	1,2	119/16	105
-S125/85-300	C 66 117-A 5309-A103	On Request[1]) see page 123		9	2	1,6	118/10	170
-S125/85-300	C 66 117-A 5406-A118			6	3	1,7	118/9	108
-S125/85-400	C 66 117-A 5312-A128			12	2	2,2	118/8	184

Standard stacks for natural cooling

Circuit	Maximum d. c. current A	Rated d. c. current A	Type	Input-/d. c. voltage Standardized designation V	Ordering number	Input-/d. c. voltage Standardized designation V	Ordering number
				30 V/19 V		**60 V/39 V**	
S	**450**	360	SSi 27 E11/12-	-S30/19-450	C 66 117-A 5409-A101	-S60/39-450	C 66 117-A 5409-A102
	500	400	SSi 30 E11/12-	-S30/19-500	C 66 117-A 5315-A101	-S60/39-500	C 66 117-A 5315-A102
	600	480	SSi 36 E11/12-	-S30/19-600	C 66 117-A 5318-A101	-S60/39-600	C 66 117-A 5318-A102
	600	480	SSi 36 E11/12-	-S30/19-600	C 66 117-A 5412-A105	-S60/39-600	C 66 117-A 5412-A106
	750	600	SSi 45 E11/12-	-S30/19-750	C 66 117-A 5415-A101	-S60/39-750	C 66 117-A 5415-A102
	900	720	SSi 54 E11/12-	-S30/19-900	C 66 117-A 5418-A101	-S60/39-900	C 66 117-A 5418-A102
	1050	840	SSi 63 E11/12-	-S30/19-1050	C 66 117-A 5421-A101	-S60/39-1050	C 66 117-A 5421-A102
				30 V/38 V		**60 V/78 V**	
DB	**9,5**	8	SSi 6 E11/12-	-DB30/38- 9,5	C 66 117-A 5003-A301	-DB60/78- 9,5	C 66 117-A 5003-A302
	15	12,5	SSi 6 E11/12-	-DB30/38-15	C 66 117-A 5005-A301	-DB60/78-15	C 66 117-A 5005-A302
	30	25	SSi 6 E11/12-	-DB30/38-30	C 66 117-A 5103-A201	-DB60/78-30	C 66 117-A 5103-A202
	50	42	SSi 6 E11/12-	-DB30/38-50	C 66 117-A 5106-A101	-DB60/78-50	C 66 117-A 5106-A102
	62	50	SSi 6 E11/12-	-DB30/38-62	C 66 117-A 5206-A113	-DB60/78-62	C 66 117-A 5206-A114
	62	50	SSi 6 E11/12-	-DB30/38-62	C 66 117-A 5303-A109	-DB60/78-62	C 66 117-A 5303-A110
	100	80	SSi 12 E11/12-	-DB30/38-100	C 66 117-A 5212-A109	-DB60/78-100	C 66 117-A 5212-A110
	100	80	SSi 12 E11/12-	-DB30/38-100	C 66 117-A 5306-A105	-DB60/78-100	C 66 117-A 5306-A106
	150	120	SSi 18 E11/12-	-DB30/38-150	C 66 117-A 5406-A105	-DB60/78-150	C 66 117-A 5406-A106
	200	160	SSi 24 E11/12-	-DB30/38-200	C 66 117-A 5312-A109	-DB60/78-200	C 66 117-A 5312-A110
	300	240	SSi 36 E11/12-	-DB30/38-300	C 66 117-A 5318-A105	-DB60/78-300	C 66 117-A 5318-A106
	300	240	SSi 36 E11/12-	-DB30/38-300	C 66 117-A 5412-A109	-DB60/78-300	C 66 117-A 5412-A110
	450	360	SSi 54 E11/12-	-DB30/38-450	C 66 117-A 5418-A105	-DB60/78-450	C 66 117-A 5418-A106
	600	480	SSi 72 E11/12-	-DB30/38-600	C 66 117-A 5424-A101	-DB60/78-600	C 66 117-A 5424-A102
	750	600	SSi 90 E11/12-	-DB30/38-750	C 66 117-A 5430-A101	-DB60/78-750	C 66 117-A 5430-A102
	900	720	SSi 108 E11/12-	-DB30/38-900	C 66 117-A 5436-A101	-DB60/78-900	C 66 117-A 5436-A102
	1050	840	SSi 126 E11/12-	-DB30/38-1050	C 66 117-A 5442-A101	-DB60/78-1050	C 66 117-A 5442-A102
				30 V/19 V		**60 V/39 V**	
DS	**85**	69	SSi 6 E11/12-	-DS30/19-85	C 66 117-A 5106-A105	-DS60/39-85	C 66 117-A 5106-A106
[DSS)]**	**100**	82	SSi 6 E11/12-	-DS30/19-100	C 66 117-A 5206-A117	-DS60/39-100	C 66 117-A 5206-A118
	160	130	SSi 12 E11/12-	-DS30/19-160	C 66 117-A 5212-A113	-DS60/39-160	C 66 117-A 5212-A114
	160	130	SSi 12 E11/12-	-DS30/19-160	C 66 117-A 5306-A109	-DS60/39-160	C 66 117-A 5306-A110
	240	195	SSi 18 E11/12-	-DS30/19-240	C 66 117-A 5406-A101	-DS60/39-240	C 66 117-A 5406-A102
	320	260	SSi 24 E11/12-	-DS30/19-320	C 66 117-A 5312-A105	-DS60/39-320	C 66 117-A 5312-A106
	480	390	SSi 36 E11/12-	-DS30/19-480	C 66 117-A 5318-A109	-DS60/39-480	C 66 117-A 5318-A110
	480	390	SSi 36 E11/12-	-DS30/19-480	C 66 117-A 5412-A113	-DS60/39-480	C 66 117-A 5412-A114
	720	585	SSi 54 E11/12-	-DS30/19-720	C 66 117-A 5418-A109	-DS60/39-720	C 66 117-A 5418-A110
	960	780	SSi 72 E11/12-	-DS30/19-960	C 66 117-A 5424-A105	-DS60/39-960	C 66 117-A 5424-A106
	1200	975	SSi 90 E11/12-	-DS30/19-1200	C 66 117-A 5430-A105	-DS60/39-1200	C 66 117-A 5430-A106
	1440	1170	SSi 108 E11/12-	-DS30/19-1440	C 66 117-A 5436-A105	-DS60/39-1440	C 66 117-A 5436-A106
	1680	1365.	SSi 126 E11/12-	-DS30/19-1680	C 66 117-A 5442-A105	-DS60/39-1680	C 66 117-A 5442-A106

Used in a double star circuit with an interphase transformer (DSS-circuit):
current rating about +20%
rated de voltage about −15%

Input-/d. c. voltage Standardized designation V	Ordering number	Input-/d. c. voltage Standardized designation V	Ordering number	Cooling plates per stack	Diodes per cooling plate	Net weigth kg	page/figure	Mounting dimensions a mm
125 V/85 V		**250 V/170 V**						
-S125/85-450	C 66 117-A 5409-A103	On Request[1])		9	3	2,3	118/11	170
-S125/85-500	C 66 117-A 5315-A103			15	2	2,5	118/10	247
-S125/85-600	C 66 117-A 5318-A103			18	2	2,9	118/10	260
-S125/85-600	C 66 117-A 5412-A107			12	3	3,3	118/11	182
-S125/85-750	C 66 117-A 5415-A103			15	3	3,7	118/11	247
-S125/85-900	C 66 117-A 5418-A103			18	3	4,5	118/11	260
-S125/85-1050	C 66 117-A 5421-A103			21	3	5,0	118/11	325
125 V/165 V		**250 V/330 V**						
-DB125/165-9,5	C 66 117-A 5003-A303	-DB250/330-9,5	C 66 117-A 5003-A304	2	3	0,1	118/3	—
-DB125/165-15	C 66 117-A 5005-A303	-DB250/330-15	C 66 117-A 5005-A304	2	3	0,13	118/5	—
-DB125/165-30	C 66 117-A 5103-A203	-DB250/330-30	C 66 117-A 5103-A204	3	2	0,34	118/6	80
-DB125/165-50	C 66 117-A 5106-A103	-DB250/330-50	C 66 117-A 5106-A104	6	1	0,48	118/6	105
-DB125/165-62	C 66 117-A 5206-A115	-DB250/330-62	C 66 117-A 5206-A116	6	1	0,54	118/7	105
-DB125/165-62	C 66 117-A 5303-A111	-DB250/330-62	C 66 117-A 5303-A112	3	2	0,71	118/8	80
-DB125/165-100	C 66 117-A 5212-A111	-DB250/330-100	C 66 117-A 5212-A112	12	1	1,0	118/7	182
-DB125/165-100	C 66 117-A 5306-A107	-DB250/330-100	C 66 117-A 5306-A108	6	2	1,2	119/13	105
-DB125/165-150	C 66 117-A 5406-A107	-DB250/330-150	C 66 117-A 5406-A108	6	3	1,68	118/9	105
-DB125/165-200	C 66 117-A 5312-A111	-DB250/330-200	C 66 117-A 5312-A112	12	2	2,0	118/8	182
-DB125/165-300	C 66 117-A 5318-A107	On Request[1])		18	2	3	118/10	260
-DB125/165-300	C 66 117-A 5412-A111			12	3	3,17	118/9	182
-DB125/165-450	C 66 117-A 5418-A107			18	3	4,46	118/11	260
-DB125/165-600	C 66 117-A 5424-A103			24	3	5,6	118/11	340
-DB125/165-750	C 66 117-A 5430-A103			30	3	7,24	118/11	417
-DB125/165-900	C 66 117-A 5436-A103			36	3	8,6	118/11	495
-DB125/165-1050	C 66 117-A 5442-A103			42	3	10	118/11	570
125 V/85 V		**250 V/170 V**						
-DS125/85-85	C 66 117-A 5106-A107	-DS250/170-85	C 66 117-A 5106-A108	6	1	0,48	118/6	130
-DS125/85-100	C 66 117-A 5206-A119	-DS250/170-100	C 66 117-A 5206-A120	6	1	0,54	118/7	130
-DS125/85-160	C 66 117-A 5212-A115	-DS250/170-160	C 66 117-A 5212-A116	12	1	0,95	118/7	182
-DS125/85-160	C 66 117-A 5306-A111	-DS250/170-160	C 66 117-A 5306-A112	6	2	1,21	118/8	130
-DS125/85-240	C 66 117-A 5406-A103	-DS250/170-240	C 66 117-A 5406-A104	6	3	1,69	118/9	130
-DS125/85-320	C 66 117-A 5312-A107	-DS250/170-320	C 66 117-A 5312-A108	12	2	2,0	118/10	182
-DS125/85-480	C 66 117-A 5318-A111	On Request[1])		18	2	3,0	118/10	285
-DS125/85-480	C 66 117-A 5412-A115			12	3	3,0	118/9	182
-DS125/85-720	C 66 117-A 5418-A111			18	3	4,5	118/11	285
-DS125/85-960	C 66 117-A 5424-A107			24	3	5,9	118/11	350
-DS125/85-1200	C 66 117-A 5430-A107			30	3	7,3	118/11	440
-DS125/85-1440	C 66 117-A 5436-A107			36	3	8,6	118/11	495
-DS125/85-1680	C 66 117-A 5442-A107			42	3	10	119/19	598

[1]) **Notice:**
Recommended input voltage 125 V, but with higher PIV-safety-factor

High current stacks for forced-air-cooling or natural air cooling

Circuit	Forced-air-cooling +35 °C, 6 m/sec		Natural air cooling +45 °C		Type	Input-/d. c. voltage Standardized designation	Ordering number	Input-/d. c. voltage Standardized designation
	Maximum d. c. current A	Rated d. c. current A	Maximum d. c. current A	Rated d. c. current A		V		V
E						**30 V/12 V**	C 66 117-	**60 V/25 V**
	40	34	**22**	18	SSi 2 E11/12-	-E30/12-40F	-A 5201-A201	-E60/25-40F
	80	68	**44**	36	SSi 4 E11/12-	-E30/12-80F	-A 5202-A201	-E60/25-80F
	80	68	**44**	36	SSi 4 E11/12-	-E30/12-80F	-A 5301-A201	-E60/25-80F
	120	100	**66**	54	SSi 6 E11/12-	-E30/12-120F	-A 5203-A201	-E60/25-120F
	120	100	**66**	54	SSi 6 E11/12-	-E30/12-120F	-A 5401-A201	-E60/25-120F
	160	135	**88**	72	SSi 8 E11/12-	-E30/12-160F	-A 5204-A201	-E60/25-160F
	160	135	**88**	72	SSi 8 E11/12-	-E30/12-160F	-A 5302-A201	-E60/25-160F
	200	170	**110**	90	SSi 10 E11/12-	-E30/12-200F	-A 5205-A201	-E60/25-200F
	240	200	**132**	110	SSi 12 E11/12-	-E30/12-240F	-A 5206-A201	-E60/25-240F
	240	200	**132**	110	SSi 12 E11/12-	-E30/12-240F	-A 5303-A201	-E60/25-240F
	240	200	**132**	110	SSi 12 E11/12-	-E30/12-240F	-A 5402-A201	-E60/25-240F
M						**30 V/12 V**	C 66 117-	**60 V/25 V**
	80	68	**44**	36	SSi 4 E11/12-	-M30/12-80F	-A 5202-A205	-M60/25-80F
	80	68	**44**	36	SSi 4 E11/12-	-M30/12-80F	-A 5301-A205	-M60/25-80F
	160	135	**88**	72	SSi 8 E11/12-	-M30/12-160F	-A 5204-A205	-M60/25-160F
	160	135	**88**	72	SSi 8 E11/12-	-M30/12-160F	-A 5302-A205	-M60/25-160F
	240	200	**132**	110	SSi 12 E11/12-	-M30/12-240F	-A 5206-A205	-M60/25-240F
	240	200	**132**	110	SSi 12 E11/12-	-M30/12-240F	-A 5402-A205	-M60/25-240F
						30 V/25 V	C 66 117-	**60 V/52 V**
B	**80**	68	**44**	36	SSi 8 E11/12-	-B30/25-80F	-A 5204-A209	-B60/52-80F
	80	68	**44**	36	SSi 8 E11/12-	-B30/25-80F	-A 5302-A209	-B60/52-80F
	160	135	**88**	72	SSi 16 E11/12-	-B30/25-160F	-A 5208-A201	-B60/52-160F
	160	135	**88**	72	SSi 16 E11/12-	-B30/25-160F	-A 5304-A201	-B60/52-160F
	240	200	**132**	110	SSi 24 E11/12-	-B30/25-240F	-A 5212-A201	-B60/52-240F
	240	200	**132**	110	SSi 24 E11/12-	-B30/25-240F	-A 5404-A201	-B60/52-240F
	320	270	**176**	145	SSi 32 E11/12-	-B30/25-320F	-A 5308-A201	-B60/52-320F
	480	410	**264**	220	SSi 48 E11/12-	-B30/25-480F	-A 5312-A201	-B60/52-480F
	480	410	**264**	220	SSi 48 E11/12-	-B30/25-480F	-A 5408-A201	-B60/52-480F
	640	550	**352**	290	SSi 64 E11/12-	-B30/25-640F	-A 5316-A201	-B60/52-640F
	720	610	**396**	330	SSi 72 E11/12-	-B30/25-720F	-A 5412-A201	-B60/52-720F
						30 V/19 V	C 66 117-	**60 V/39 V**
S	**115**	100	**65**	50	SSi 6 E11/12-	-S30/19-115F	-A 5203-A205	-S60/39-115F
	230	200	**130**	100	SSi 12 E11/12-	-S30/19-230F	-A 5206-A209	-S60/39-230F
	230	200	**130**	100	SSi 12 E11/12-	-S30/19-230F	-A 5303-A205	-S60/39-230F
	345	300	**195**	150	SSi 18 E11/12-	-S30/19-345F	-A 5209-A201	-S60/39-345F
	345	300	**195**	150	SSi 18 E11/12-	-S30/19-345F	-A 5403-A201	-S60/39-345F
	690	600	**390**	300	SSi 36 E11/12-	-S30/19-690F	-A 5309-A201	-S60/39-690F
	920	800	**520**	400	SSi 48 E11/12-	-S30/19-920F	-A 5312-A205	-S60/39-920F
	1035	900	**585**	450	SSi 54 E11/12-	-S30/19-1035F	-A 5409-A201	-S60/39-1035F
	1150	1000	**650**	500	SSi 60 E11/12-	-S30/19-1150F	-A 5315-A201	-S60/39-1150F
	1380	1200	**780**	600	SSi 72 E11/12-	-S30/19-1380F	-A 5318-A201	-S60/39-1380F
	1380	1200	**780**	600	SSi 72 E11/12-	-S30/19-1380F	-A 5412-A205	-S60/39-1380F
	1725	1500	**975**	750	SSi 90 E11/12-	-S30/19-1725F	-A 5415-A201	-S60/39-1725F
	2070	1800	**1170**	900	SSi 108 E11/12-	-S30/19-2070F	-A 5418-A201	-S60/39-2070F
	2415	2100	**1365**	1050	SSi 126 E11/12-	-S30/19-2415F	-A 5421-A201	-S60/39-2415F

Ordering number	Input-/d. c. voltage Standardized designation V	Ordering number	Input-/d. c. voltage Standardized designation V	Ordering number	Cooling plates per stack	Diodes per cooling plate	Net weight kg	Page/figure	Mounting dimensions a mm
C 66 117-	**125 V/55 V**	C 66 117-	**250 V/110 V**	C 66 117-					
-A 5201-A202	-E125/55-40F	-A 5201-A203	-E250/110-40F	-A 5201-A204	1	2	0,13	118/7	41
-A 5202-A202	-E125/55-80F	-A 5202-A203	-E250/110-80F	-A 5202-A204	2	2	0,22	118/7	55
-A 5301-A202	-E125/55-80F	-A 5301-A203	-E250/110-80F	-A 5301-A204	1	4	0,22	119/13	41
-A 5203-A202	-E125/55-120F	-A 5203-A203			3	2	0,30	118/7	70
-A 5401-A202	-E125/55-120F	-A 5401-A203			1	6	0,30	119/14	41
-A 5204-A202	-E125/55-160F	-A 5204-A203			4	2	0,40	119/12	80
-A 5302-A202	-E125/55-160F	-A 5302-A203	On Request[1]) see page 123		2	4	0,40	119/13	55
-A 5205-A202	-E125/55-200F	-A 5205-A203			5	2	0,50	119/12	95
-A 5206-A202	-E125/55-240F	-A 5206-A203			6	2	0,60	119/12	105
-A 5303-A202	-E125/55-240F	-A 5303-A203			3	4	0,60	119/13	70
-A 5402-A202	-E125/55-240F	-A 5402-A203			2	6	0,60	119/14	55
C 66 117-	**125 V/55 V**	C 66 117-	**250 V/110 V**	C 66 117-					
-A 5202-A206	-M125/55-80F	-A 5202-A207	-M250/110-80F	-A 5202-A208	2	2	0,22	119/12	55
-A 5301-A206	-M125/55-80F	-A 5301-A207	-M250/110-80F	-A 5301-A208	1	4	0,22	119/13	41
-A 5204-A206	-M125/55-160F	-A 5204-A207	-M250/110-160F	-A 5204-A208	4	2	0,40	119/12	80
-A 5302-A206	-M125/55-160F	-A 5302-A207	-M250/110-160F	-A 5302-A208	2	4	0,40	119/13	55
-A 5206-A206	-M125/55-240F	**-A 5206-A207**	On Request[1]) see page 123		6	2	0,60	119/12	105
-A 5402-A206	-M125/55-240F	**-A 5402-A207**			2	6	0,60	119/14	55
C 66 117-	**125 V/110 V**	C 66 117-	**250 V/225 V**	C 66 117-					
-A 5204-A210	-B125/110-80F	-A 5204-A211	-B250/225-80F	-A 5204-A212	4	2	0,40	119/15	80
-A 5302-A210	-B125/110-80F	-A 5302-A211	-B250/225-80F	-A 5302-A212	2	4	0,40	119/13	68
-A 5208-A202	-B125/110-160F	-A 5208-A203	-B250/225-160F	-A 5208-A204	8	2	0,75	119/12	135
-A 5304-A202	-B125/110-160F	-A 5304-A203	-B250/225-160F	-A 5304-A204	4	4	0,80	119/16	80
-A 5212-A202	-B125/110-240F	-A 5212-A203			12	2	1,06	119/12	187
-A 5404-A202	-B125/110-240F	-A 5404-A203			4	6	1,20	119/17	80
-A 5308-A202	-B125/110-320F	-A 5308-A203			8	4	1,62	119/13	135
-A 5312-A202	-B125/110-480F	-A 5312-A203	On Request[1]) see page 123		12	4	2,30	119/16	187
-A 5408-A202	-B125/110-480F	-A 5408-A203			8	6	2,36	119/14	135
-A 5316-A202	-B125/110-640F	-A 5316-A203			16	4	3,00	119/16	240
-A 5412-A202	-B125/110-720F	-A 5412-A203			12	6	3,30	119/19	187
C 66 117-	**125 V/85 V**	C 66 117-	**250 V/170 V**	C 66 117-					
-A 5203-A206	-S125/85-115F	-A 5203-A207	-S250/170-115F	-A 5203-A208	3	2	0,30	119/12	80
-A 5206-A210	-S125/85-230F	-A 5206-A211	-S250/170-230F	-A 5206-A212	6	2	0,60	118/7	130
-A 5303-A206	-S125/85-230F	-A 5303-A207	-S250/170-230F	-A 5303-A208	3	4	0,60	119/13	80
-A 5209-A202	-S125/85-345F	-A 5209-A203			9	2	0,81	119/12	170
-A 5403-A202	-S125/85-345F	-A 5403-A203			3	6	0,90	119/14	80
-A 5309-A202	-S125/85-690F	-A 5309-A203			9	4	1,75	119/13	170
-A 5312-A206	-S125/85-920F	-A 5312-A207			12	4	2,3	119/16	187
-A 5409-A202	-S125/85-1035F	-A 5409-A203			9	6	2,6	119/17	170
-A 5315-A202	-S125/85-1150F	-A 5315-A203	On Request[1]) see page 123		15	4	2,9	119/16	247
-A 5318-A202	-S125/85-1380F	-A 5318-A203			18	4	3,3	119/16	270
-A 5412-A206	-S125/85-1380F	-A 5412-A207			12	6	3,3	119/17	187
-A 5415-A202	-S125/85-1725F	-A 5415-A203			15	6	4,2	119/19	247
-A 5418-A202	-S125/85-2070F	-A 5418-A203			18	6	5,0	119/19	270
-A 5421-A202	-S125/85-2415F	-A 5421-A203			21	6	5,6	119/19	335

High current stacks for forced-air-cooling or natural air cooling

Circuit	Forced-air-cooling +35 °C, 6 m/sec		Natural air cooling +45 °C		Type	Input-/d. c. voltage Standardized designation	Ordering number	Input-/d. c. voltage Standardized designation
	Maximum d. c. current A	Rated d. c. current A	Maximum d. c. current A	Rated d. c. current A		V		V
						30 V/38 V	C 66 117-	**60 V/78 V**
DB	**115**	100	65	50	SSi 12 E11/12-	-DB30/38-115F	-A 5206-A213	-DB60/78-115F
	115	100	65	50	SSi 12 E11/12-	-DB30/38-115F	-A 5303-A209	-DB60/78-115F
	230	200	130	100	SSi 24 E11/12-	-DB30/38-230F	-A 5212-A209	-DB60/78-230F
	230	200	130	100	SSi 24 E11/12-	-DB30/38-230F	-A 5306-A201	-DB60/78-230F
	345	300	195	150	SSi 36 E11/12-	-DB30/38-345F	-A 5406-A205	-DB60/78-345F
	460	400	260	200	SSi 48 E11/12-	-DB30/38-460F	-A 5312-A209	-DB60/78-460F
	690	600	390	300	SSi 72 E11/12-	-DB30/38-690F	-A 5318-A205	-DB60/78-690F
	690	600	390	300	SSi 72 E11/12-	-DB30/38-690F	-A 5412-A209	-DB60/78-690F
	1035	900	585	450	SSi 108 E11/12-	-DB30/38-1035F	-A 5418-A205	-DB60/78-1035F
	1380	1200	780	600	SSi 144 E11/12-	-DB30/38-1380F	-A 5424-A201	-DB60/78-1380F
	1725	1500	975	750	SSi 180 E11/12-	-DB30/38-1725F	-A 5430-A201	-DB60/78-1725F
	2070	1800	1170	900	SSi 216 E11/12-	-DB30/38-2070F	-A 5436-A201	-DB60/78-2070F
	2415	2100	1365	1050	SSi 252 E11/12-	-DB30/38-2415F	-A 5442-A201	-DB60/78-2415F
						30 V/19 V	C 66 117-	**60 V/39 V**
DS [DSS**)]	**185**	170	110	82	SSi 12 E11/12-	-DS30/19-185F	-A 5206-A217	-DS60/39-185F
	370	340	220	165	SSi 24 E11/12-	-DS30/19-370F	-A 5212-A205	-DS60/39-370F
	370	340	220	165	SSi 24 E11/12-	-DS30/19-370F	-A 5306-A205	-DS60/39-370F
	555	500	330	250	SSi 36 E11/12-	-DS30/19-555F	-A 5406-A201	-DS60/39-555F
	740	680	440	330	SSi 48 E11/12-	-DS30/19-740F	-A 5312-A213	-DS60/39-740F
	1110	1000	660	500	SSi 72 E11/12-	-DS30/19-1110F	-A 5318-A209	-DS60/39-1110F
	1110	1000	660	500	SSi 72 E11/12-	-DS30/19-1110F	-A 5412-A213	-DS60/39-1110F
	1665	1500	990	720	SSi 108 E11/12-	-DS30/19-1665F	-A 5418-A209	-DS60/39-1665F
	2220	2000	1320	960	SSi 144 E11/12-	-DS30/19-2220F	-A 5424-A205	-DS60/39-2220F
	2775	2500	1650	1250	SSi 180 E11/12-	-DS30/19-2775F	-A 5430-A205	-DS60/39-2775F
	3330	3000	1980	1490	SSi 216 E11/12-	-DS30/19-3330F	-A 5436-A205	-DS60/39-3330F
	3885	3500	2310	1750	SSi 252 E11/12-	-DS30/19-3885F	-A 5442-A205	-DS60/39-3885F

**) Used in a double star circuit with an interphase transformer (DSS-circuit):
current rating about +20%
rated de voltage about −15%

Practicable special arrangements
(number of plates and armament with diodes)

Available for delivery on request:
stacks in any circuit configuration
for input voltages up to 125 V

with max 21 cooling plates 100 × 125 mm, with 1, 2 or 3 diodes per pl.
max 42 cooling plates 100 × 250 mm, with 2, 4 or 6 diodes per pl.
max 42 cooling plates 100 × 375 mm, with 3, 6 or 9 diodes per pl.

Single-armed
double-armed
triple-armed

e. g. stacks SSi 252 E 11/12 − for − $^1/_6$ DS 125/ 85-23310 F
(double-armed)

stacks SSi 378 E 11/12 − for − DB 125/165-2415 F
(triple-armed)

Ordering number	Input-/d. c. voltage Standardized designation V	Ordering number	Input-/d. c. voltage Standardized designation V	Ordering number	Cooling plates per stack	Diodes per cooling plate	Net weigth kg	Page/figure	Mounting dimensions a mm
C 66 117-	**125 V/165 V**	C 66 117-	**250 V/330 V**	C 66 117-					
-A 5206-A214	-DB125/165-115F	-A 5206-A215	-DB250/330-115F	-A 5206-A216	6	2	0,6	119/12	106
-A 5303-A210	-DB125/165-115F	-A 5303-A211	-DB250/330-115F	-A 5303-A212	3	4	0,6	119/13	79
-A 5212-A210	-DB125/165-230F	-A 5212-A211	-DB250/330-230F	-A 5212-A212	12	2	1,0	119/12	190
-A 5306-A202	-DB125/165-230F	-A 5306-A203	-DB250/330-230F	-A 5306-A204	6	4	1,2	119/13	106
-A 5406-A206	-DB125/165-345F	-A 5406-A207			6	6	1,8	119/14	106
-A 5312-A210	-DB125/165-460F	-A 5312-A211			12	4	2,3	119/13	190
-A 5318-A206	-DB125/165-690F	-A 5318-A207			18	4	3,3	119/16	270
-A 5412-A210	-DB125/165-690F	-A 5412-A211			12	6	3,3	119/14	190
-A 5418-A206	-DB125/165-1035F	-A 5418-A207	On Request[1]) see page 123		18	6	5,0	119/17	270
-A 5424-A202	-DB125/165-1380F	-A 5424-A203			24	6	6,7	119/19	350
-A 5430-A202	-DB125/165-1725F	-A 5430-A203			30	6	8,4	119/19	422
-A 5436-A202	-DB125/165-2070F	-A 5436-A203			36	6	10,1	119/19	500
-A 5442-A202	-DB125/165-2415F	-A 5442-A203			42	6	11,8	119/19	590
C 66 117-	**125 V/85 V**	C 66 117-	**250 V/170 V**	C 66 117-					
-A 5206-A218	-DS125/85-185F	-A 5206-A219	-DS250/170-185F	-A 5206-A220	6	2	0,6	119/12	130
-A 5212-A206	-DS125/85-370F	-A 5212-A207	-DS250/170-370F	-A 5212-A208	12	2	1,0	119/12	187
-A 5306-A206	-DS125/85-370F	-A 5306-A207	-DS250/170-370F	-A 5306-A208	6	4	1,2	119/13	130
-A 5406-A202	-DS125/85-555F	-A 5406-A203			6	6	1,8	119/14	130
-A 5312-A214	-DS125/85-740F	-A 5312-A215			12	4	2,3	119/13	187
-A 5318-A210	-DS125/85-1110F	-A 5318-A211			18	4	3,3	119/18	290
-A 5412-A214	-DS125/85-1110F	-A 5412-A215			12	6	3,3	119/14	187
-A 5418-A210	-DS125/85-1665F	-A 5418-A211	On Request[1]) see page 123		18	6	5,0	119/19	290
-A 5424-A206	-DS125/85-2220F	-A 5424-A207			24	6	6,7	119/19	350
-A 5430-A206	-DS125/85-2775F	-A 5430-A207			30	6	8,4	119/19	450
-A 5436-A206	-DS125/85-3330F	-A 5436-A207			36	6	10,1	119/19	500
-A 5442-A206	-DS125/85-3885F	-A 5442-A207			42	6	11,8	119/19	615

Practicable special arrangements (form and position of connections)

Arrangements deviating from normal form and positions are especially to be ordered.

Please appeal hereby to this issue of delivery program using the details as listed below.

The normal arrangement is given by the figures.

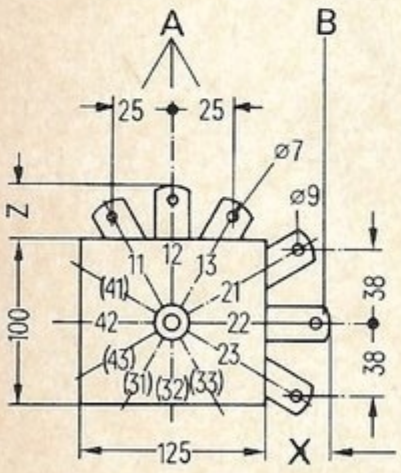
The connections can be provided only in the specified positions. The positions in parenthesis are unusual.

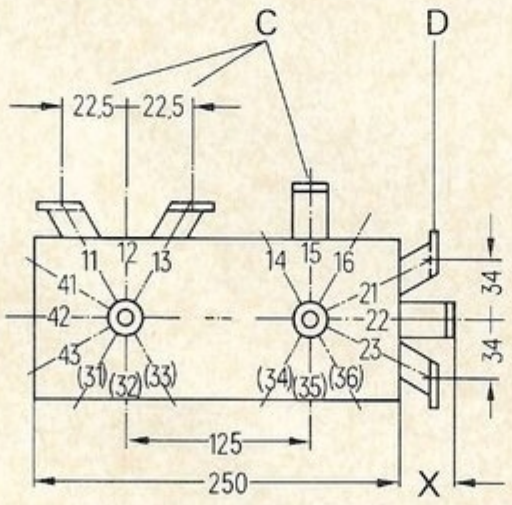
The connections A and B can be provided on the long side position 11 till 19 and (31 till 39) only,

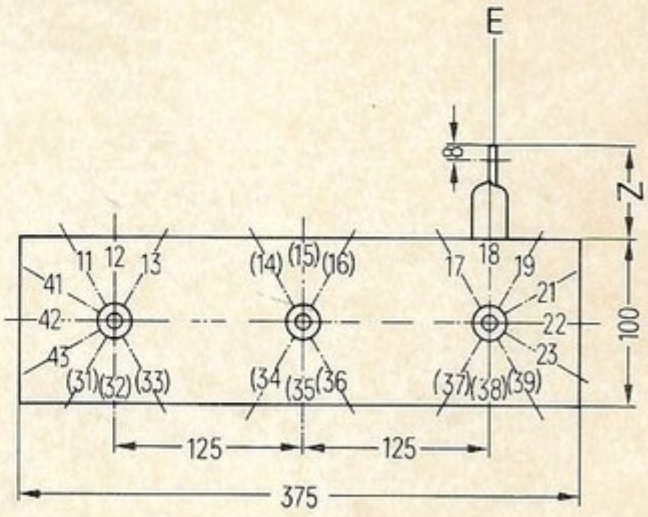
the connections C and D should be provided on the small side position 21 till 23 and 41 till 43 only,

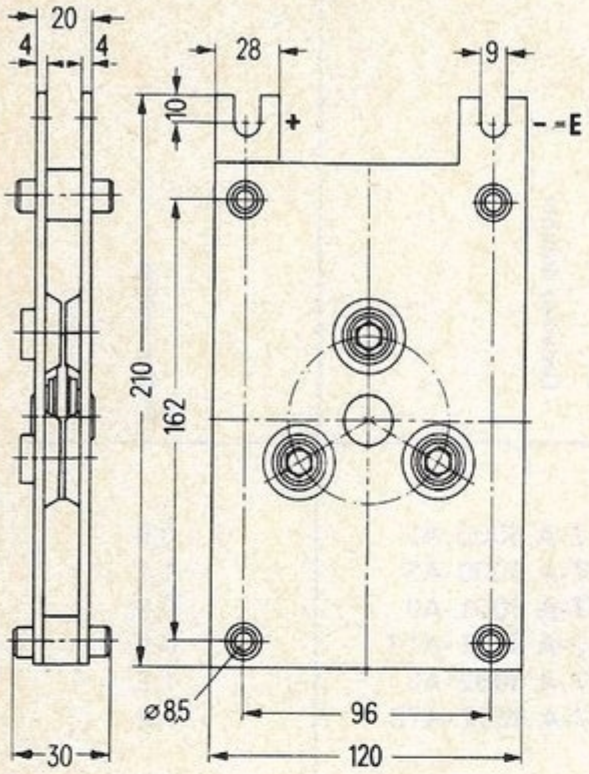
the connections E can be provided in the positions 12, 15, 18,(32, 35, 38) only.

connection form		length	width	distance	distance	connection screw
		mm	mm	mm	mm	
A	straight, short	85	20	35	—	M 6 ($^1/_4$ in.)
B	straight, long	105	20	(55)	42,5	M 8 ($^5/_{16}$ in.)
C	angled, short	70	20	20	—	M 6 ($^1/_4$ in.)
D	straight, long	89	20	(39)	26,5	M 8 ($^5/_{16}$ in.)
E	twisted, long	105	20	55	—	M 8 ($^5/_{16}$ in.)

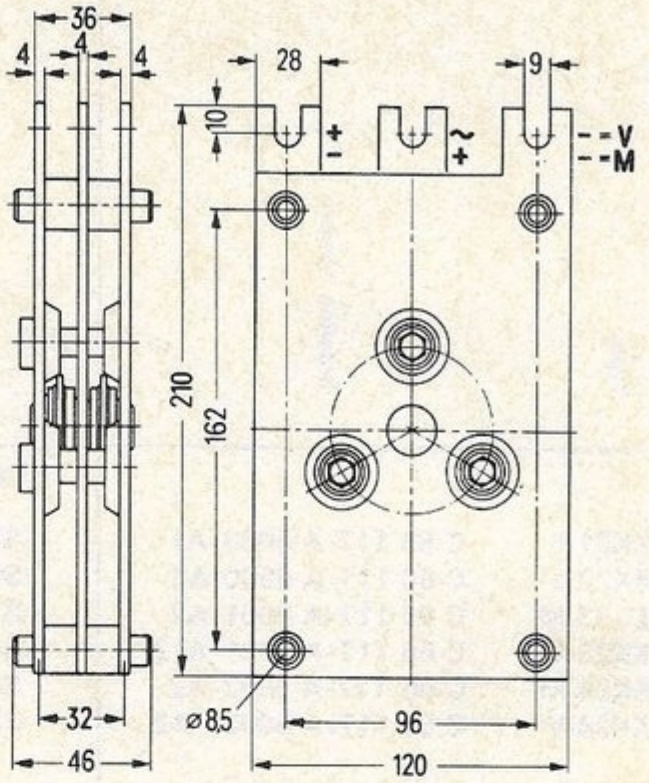




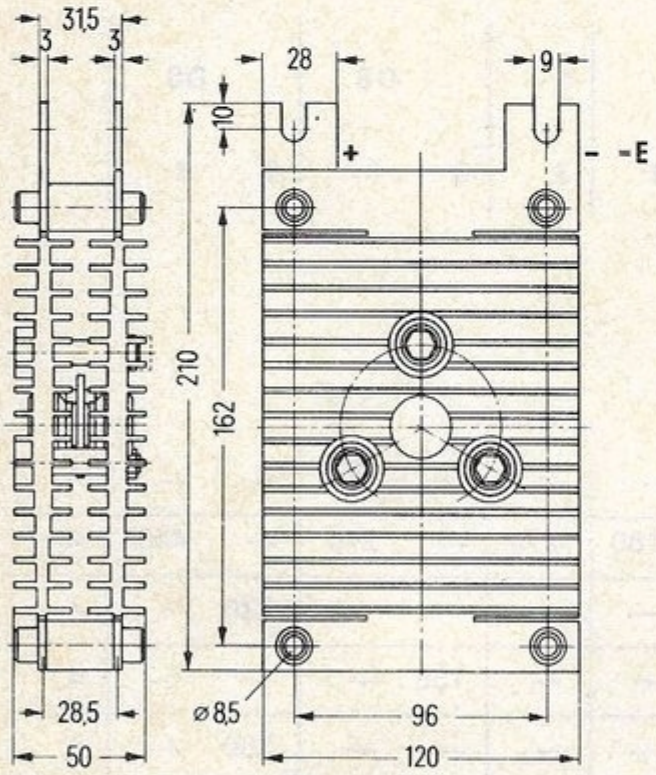




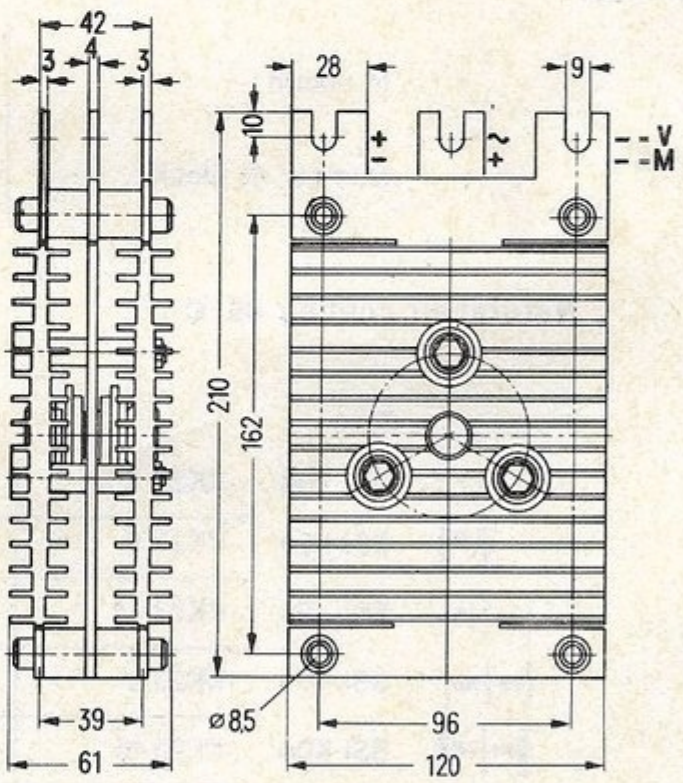
SSi K04 . . -KK21 E



SSi K04 . . -KK23 V
. . -KK23 M



SSi K04 . . -KK22 E



SSi K04 . . -KK24 V
. . -KK24 M

block circuit

E (single phase) halfwave (H)

M (single phase) center-tap (C)

V (single phase) doubler (D)

Input voltage / Type	Ordering number	Input voltage / Type	Ordering number	Net weigth kg
125 V		**250 V**		
SSi K04 20-KK21 E	C 66 117-A 6003-A1	SSi K04 40-KK21 E	C 66 117-A 6003-A2	0,5
SSi K04 20-KK22 E	C 66 117-A 6000-A2	SSi K04 40-KK22 E	C 66 117-A 6000-A3	1,1
SSi K04 20-KK23 M	C 66 117-A 6001-A2	SSi K04 40-KK23 M	C 66 117-A 6001-A3	0,9
SSi K04 20-KK23 V	C 66 117-A 6001-A12	SSi K04 40-KK23 V	C 66 117-A 6001-A13	0,9
SSi K04 20-KK24 M	C 66 117-A 6002-A2	SSi K04 40-KK24 M	C 66 117-A 6002-A3	1,2
SSi K04 20-KK24 V	C 66 117-A 6002-A12	SSi K04 40-KK24 V	C 66 117-A 6002-A13	1,2
380 V		**500 V**		
SSi K04 60-KK22E	C 66 117-A 6000-A4	SSi K04 80-KK22 E	C 66 117-A 6000-A5	1,1
SSi K04 60-KK23 M	C 66 117-A 6001-A4	SSi K04 80-KK23 M	C 66 117-A 6001-A5	0,9
SSi K04 60-KK23 V	C 66 117-A 6001-A14	SSi K04 80-KK23 V	C 66 117-A 6001-A15	0,9
SSi K04 60-KK24 M	C 66 117-A 6002-A4	SSi K04 80-KK24 M	C 66 117-A 6002-A5	1,2
SSi K04 60-KK24 V	C 66 117-A 6002-A14	SSi K04 80-KK24 V	C 66 117-A 6002-A15	1,2

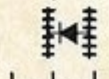
Max. dc. current

In circuit	E	M		B		S	DB		DS		
Number of blocks	1	1	2	2	4	3	3	6	3	6	

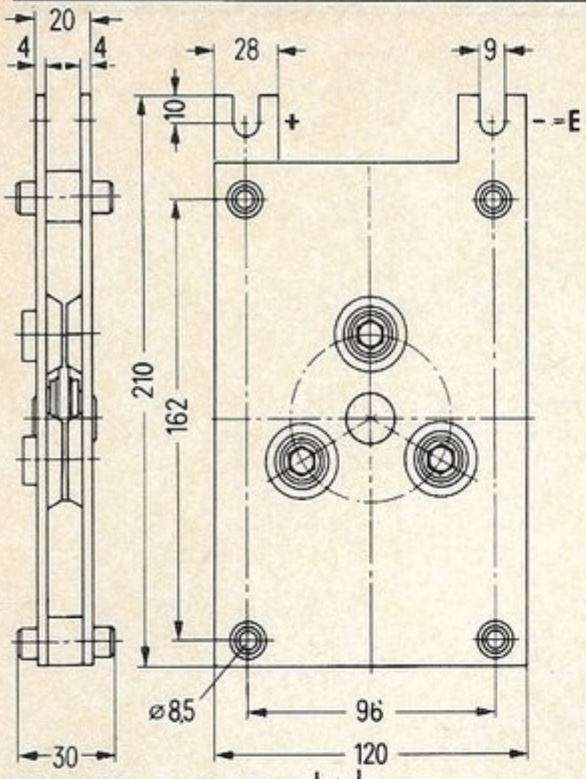
Natural air cooling 45 °C

Structure	Type											
	SSi K04 . . -KK21 E	60	—	—	—	—	—	—	180	—	—	A
	SSi K04 . . -KK22 E	90	—	180	—	180	270	—	270	—	440	A
	SSi K04 . . -KK23 M	—	90	—	—	—	—	—	—	230	—	A
	SSi K04 . . -KK23 V	—	—	—	90	—	—	135	—	—	—	A
	SSi K04 . . -KK24 M	—	120	—	—	—	—	—	—	300	—	A
	SSi K04 . . -KK24 V	—	—	—	120	—	—	180	—	—	—	A

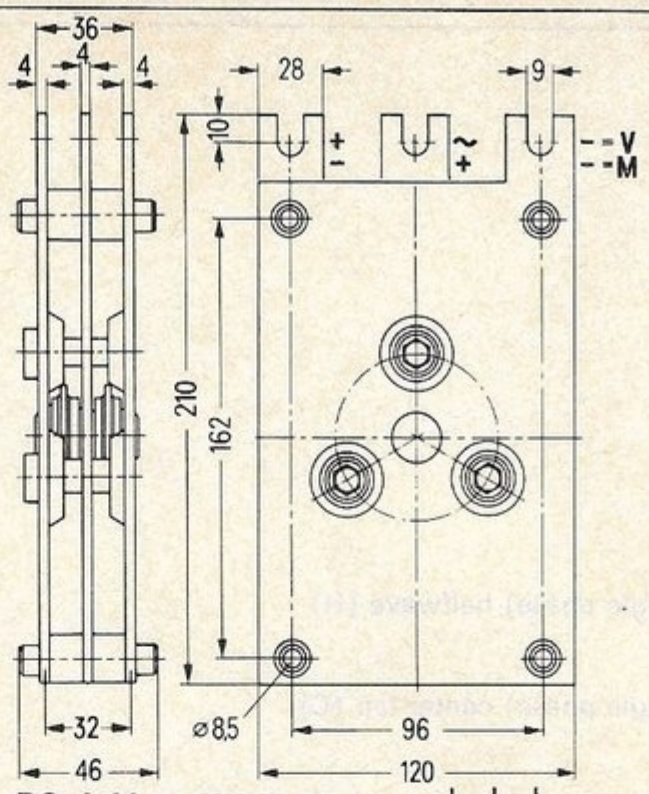
Forced air cooling 35 °C, 6 m/sec

	SSi K04 . . -KK21 E	140	—	—	—	—	—	—	400	—	—	A
	SSi K04 . . -KK22 E	215	—	430	—	430	600	—	600	—	970	A
	SSi K04 . . -KK23 M	—	230	—	—	—	—	—	—	530	—	A
	SSi K04 . . -KK23 V	—	—	—	230	—	—	320	—	—	—	A
	SSi K04 . . -KK24 M	—	320	—	—	—	—	—	—	740	—	A
	SSi K04 . . -KK24 V	—	—	—	320	—	—	450	—	—	—	A

Thy- and Di-Thy-Block with disc thyristors and diodes



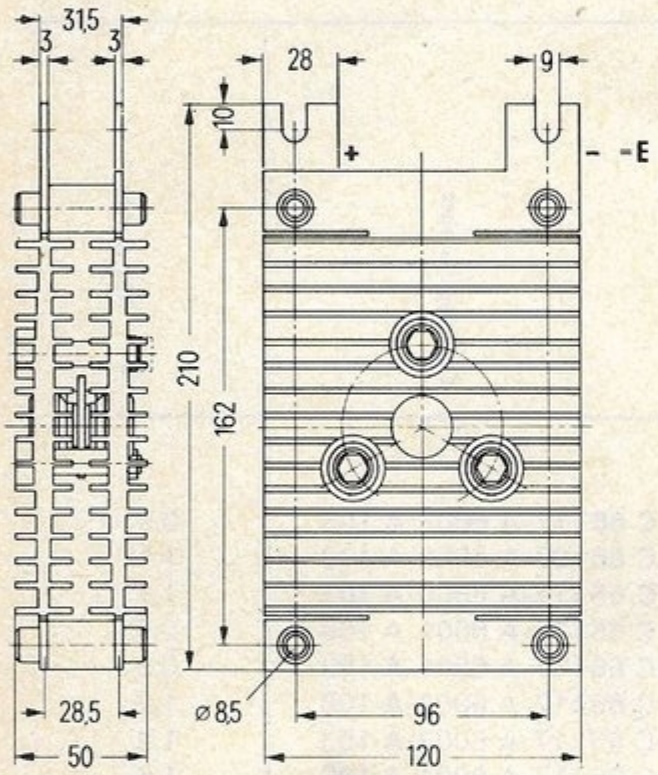
BSt L 10. . - KK 21 E



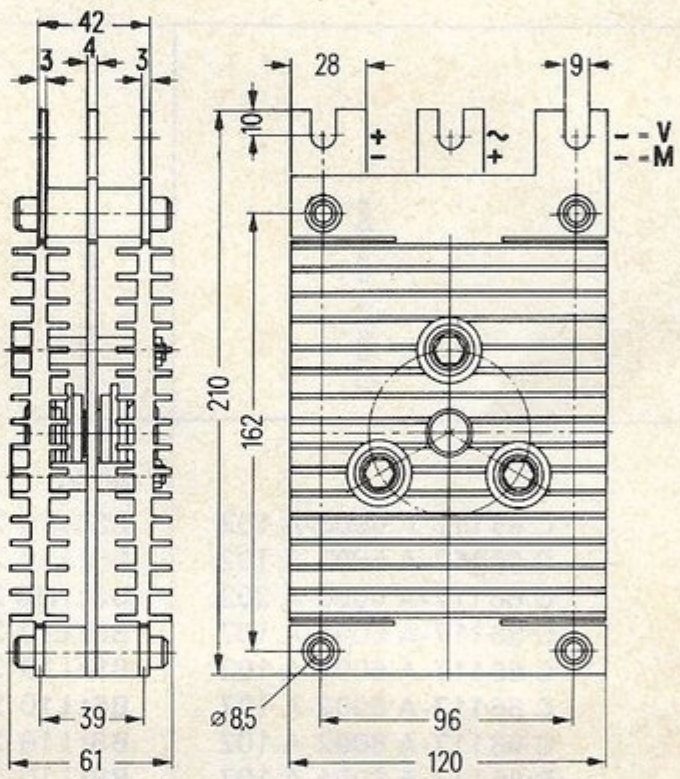
BSt L 10. . - KK 23 M

BSt L 10. . - KK 23 V

BSt L 10. . /K04. . -KK 23 V 1



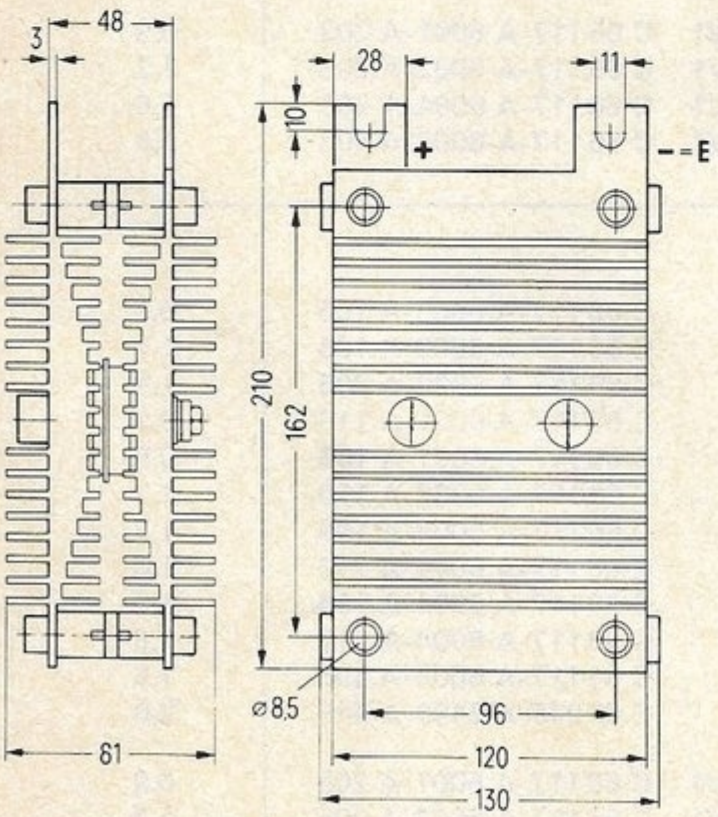
BSt L 10. . - KK 22 E
BSt N 10. . - KK 22 E



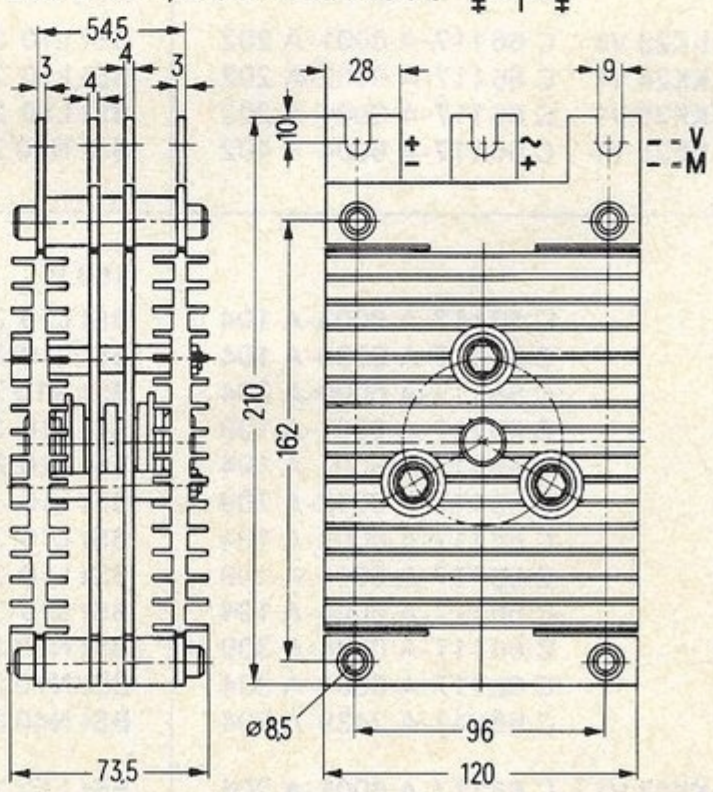
BSt L 10. . - KK 24 M

BSt L 10. . - KK 24 V

BSt L 10. . /K 04. . - KK 24 V 1



BSt N 40. . - NK 12 E



BSt L 10. . - KK 25 M **BSt N 10. . - KK 25 M**

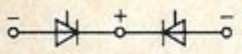
BSt L 10. . - KK 25 V **BSt N 10. . - KK 25 V**

BSt L 10. . /K 04. . - KK 25 V 1 **BSt N 10. . /K 04. . - KK 25 V 1**

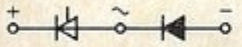
Thy- and Di-Thy-Block with disc thyristors and diodes

block circuit

E (single phase) halfwave (H)

M  (single phase) center tap (C)

V (single phase) doubler (D)

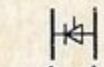
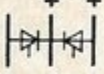
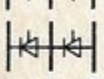
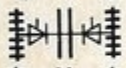
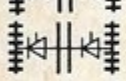
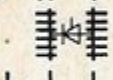
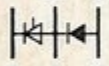
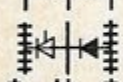
V1  (single phase) doubler (D)

Input voltage Type	Ordering number	Input voltage Type	Ordering number	Net weight kg
60 V		**95 V**		
BSt L10 13-KK21 E	C 66117-A 6003-A 102	BSt L10 20-KK21 E	C 66117-A 6003-A 103	0,5
BSt L10 13-KK22 E	C 66117-A 6000-A 102	BSt L10 20-KK22 E	C 66107-A 6000-A 103	1,1
BSt N10 13-KK22 E	C 66117-A 6000-A 202	BSt N10 20-KK22 E	C 66117-A 6000-A 203	1,1
BSt L10 13-KK23 M	C 66117-A 6001-A 107	BSt L10 20-KK23 M	C 66117-A 6001-A 108	0,9
BSt L10 13-KK23 V	C 66117-A 6001-A 102	BSt L10 20-KK23 V	C 66117-A 6001-A 103	0,9
BSt L10 13-KK24 M	C 66117-A 6002-A 107	BSt L10 20-KK24 M	C 66117-A 6002-A 108	1,2
BSt L10 13-KK24 V	C 66117-A 6002-A 102	BSt L10 20-KK24 V	C 66117-A 6002-A 103	1,2
BSt L10 13-KK25 M	C 66117-A 6004-A 107	BSt L10 20-KK25 M	C 66117-A 6004-A 108	1,6
BSt L10 13-KK25 V	C 66117-A 6004-A 102	BSt L10 20-KK25 V	C 66117-A 6004-A 103	1,6
BSt N10 13-KK25 M	C 66117-A 6004-A 307	BSt N10 20-KK25 M	C 66117-A 6004-A 308	1,6
BSt N10 13-KK25 V	C 66117-A 6004-A 302	BSt N10 20-KK25 V	C 66117-A 6004-A 303	1,6
BSt N40 13-NK12 E	C 66048-A 2439-A 502	BSt N40 20-NK12 E	C 66048-A 2439-A 503	2,0
BSt L10 13/K04 20-KK23 V1	C 66117-A 6001-A 202	BSt L10 20/K04 20-KK23 V1	C 66117-A 6001-A 203	0,9
BSt L10 13/K04 20-KK24 V1	C 66117-A 6002-A 202	BSt L10 20/K04 20-KK24 V1	C 66117-A 6002-A 203	1,2
BSt L10 13/K04 20-KK25 V1	C 66117-A 6004-A 202	BSt L10 20/K04 20-KK25 V1	C 66117-A 6004-A 203	1,6
BSt N10 13/K04 20-KK25 V1	C 66117-A 6004-A 402	BSt N10 20/K04 20-KK25 V1	C 66117-A 6004-A 403	1,6
125 V		**150 V**		
BSt L10 26-KK21 E	C 66117-A 6003-A 104	BSt L10 33-KK21 E	C 66117-A 6003-A 105	0,5
BSt L10 26-KK22 E	C 66117-A 6000-A 104	BSt L10 33-KK22 E	C 66117-A 6000-A 105	1,1
BSt N10 26-KK22 E	C 66117-A 6000-A 204	BSt N10 33-KK22 E	C 66117-A 6000-A 205	1,1
BSt L10 26-KK23 M	C 66117-A 6001-A 109	BSt L10 33-KK23 M	C 66117-A 6001-A 110	0,9
BSt L10 26-KK23 V	C 66117-A 6001-A 104	BSt L10 33-KK23 V	C 66117-A 6001-A 105	0,9
BSt L10 26-KK24 M	C 66117-A 6002-A 109	BSt L10 33-KK24 M	C 66117-A 6002-A 110	1,2
BSt L10 26-KK24 V	C 66117-A 6002-A 104	BSt L10 33-KK24 V	C 66117-A 6002-A 105	1,2
BSt L10 26-KK25 M	C 66117-A 6004-A 109	BSt L10 33-KK25 M	C 66117-A 6004-A 110	1,6
BSt L10 26-KK25 V	C 66117-A 6004-A 104	BSt L10 33-KK25 V	C 66117-A 6004-A 105	1,6
BSt N10 26-KK25 M	C 66117-A 6004-A 309	BSt N10 33-KK25 M	C 66117-A 6004-A 310	1,6
BSt N10 26-KK25 V	C 66117-A 6004-A 304	BSt N10 33-KK25 V	C 66117-A 6004-A 305	1,6
BSt N40 26-NK12 E	C 66048-A 2439-A 504	BSt N40 33-NK12 E	C 66048-A 2439-A 505	2,0
BSt L10 26/K04 40-KK23 V1	C 66117-A 6001-A 204	BSt L10 33/K04 40-KK23 V1	C 66117-A 6001-A 205	0,9
BSt L10 26/K04 40-KK24 V1	C 66117-A 6002-A 204	BSt L10 33/K04 40-KK24 V1	C 66117-A 6002-A 205	1,2
BSt L10 26/K04 40-KK25 V1	C 66117-A 6004-A 204	BSt L10 33/K04 40-KK25 V1	C 66117-A 6004-A 205	1,6
BSt N10 26/K04 40-KK25 V1	C 66117-A 6004-A 404	BSt N10 33/K04 40-KK25 V1	C 66117-A 6004-A 405	1,6

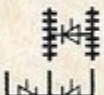
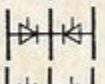
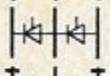
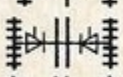
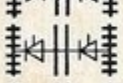
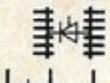
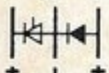
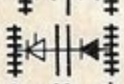
Max. dc. current (* continuous r.m.s. current)

In circuit	E	M		B, hB		S	DB, hDB		DS		AS*	
Number of blocks	1	1	2	2	4	3	3	6	3	6	1	2

Natural air cooling 45 °C

Structure	Type														
	BSt L 10..-KK 21 E	36	—	72	—	72	100	—	100	—	175	—	80	A
	BSt L 10..-KK 22 E	55	—	110	—	110	150	—	150	—	260	—	120	A
	BSt N 10..-KK 22 E	65	—	130	—	130	185	—	185	—	300	—	145	A
	BSt L 10..-KK 23 M	—	60	—	—	—	—	—	—	155	—	—	—	A
	BSt L 10..-KK 23 V	—	—	—	60	—	—	90	—	—	—	67		A
	BSt L 10..-KK 24 M	—	85	—	—	—	—	—	—	195	—	—	—	A
	BSt L 10..-KK 24 V	—	—	—	85	—	—	120	—	—	—	95		A
	BSt L 10..-KK 25 M	—	90	—	—	—	—	—	—	220	—	—	—	A
	BSt L 10..-KK 25 V	—	—	—	90	—	—	130	—	—	—	100		A
	BSt N 10..-KK 25 M	—	105	—	—	—	—	—	—	250	—	—	—	A
	BSt N 10..-KK 25 V	—	—	—	105	—	—	150	—	—	—	115	—	A
	BSt N 40..-NK 12 E	83	—	165	—	165	235	—	235	—	410	—	185	A
	BSt L 10../K 04..-KK 23 V	—	—	—	60	—	—	90	—	—	—	—	—	A
	BSt L 10../K 04..-KK 24 V	—	—	—	85	—	—	120	—	—	—	—	—	A
	BSt L 10../K 04..-KK 25 V	—	—	—	90	—	—	130	—	—	—	—	—	A
	BSt N 10../K 04..-KK 25 V	—	—	—	105	—	—	150	—	—	—	—	—	A

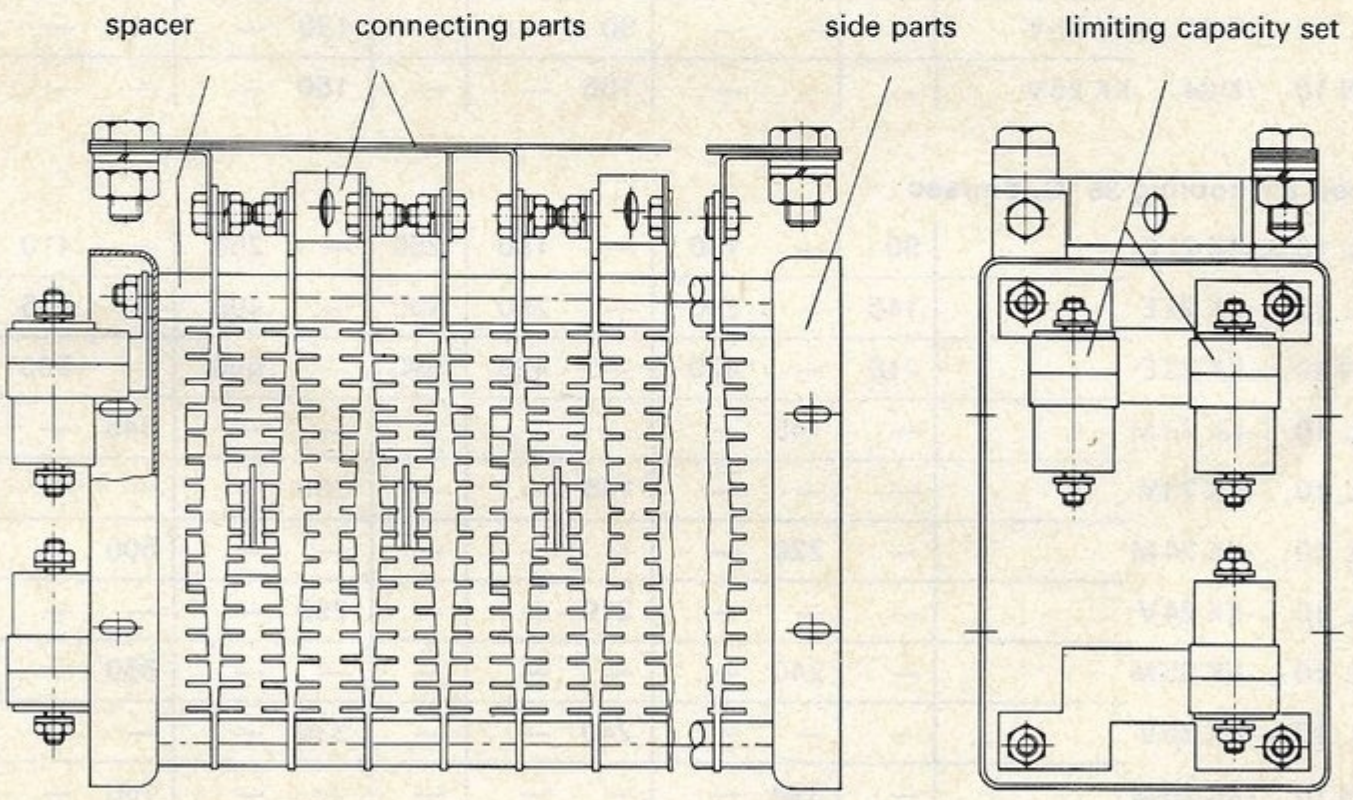
Forced air cooling 35 °C, 6m/sec

	BSt L 10..-KK 21 E	90	—	180	—	180	255	—	255	—	410	—	200	A
	BSt L 10..-KK 22 E	145	—	290	—	290	400	—	400	—	625	—	320	A
	BSt N 10..-KK 22 E	210	—	420	—	420	590	—	590	—	960	—	470	A
	BSt L 10..-KK 23 M	—	145	—	—	—	—	—	—	345	—	—	—	A
	BSt L 10..-KK 23 V	—	—	—	145	—	—	200	—	—	—	160	—	A
	BSt L 10..-KK 24 M	—	220	—	—	—	—	—	—	500	—	—	—	A
	BSt L 10..-KK 24 V	—	—	—	210	—	—	290	—	—	—	230	—	A
	BSt L 10..-KK 25 M	—	240	—	—	—	—	—	—	550	—	—	—	A
	BSt L 10..-KK 25 V	—	—	—	240	—	—	330	—	—	—	265	—	A
	BSt N 10..-KK 25 M	—	330	—	—	—	—	—	—	760	—	—	—	A
	BSt N 10..-KK 25 V	—	—	—	330	—	—	460	—	—	—	355	—	A
	BSt N 40..-NK 12 E	255	—	510	—	510	700	—	700	—	1150	—	570	A
	BSt L 10../K 04..-KK 23 V	—	—	—	160	—	—	220	—	—	—	—	—	A
	BSt L 10../K 04..-KK 24 V	—	—	—	220	—	—	300	—	—	—	—	—	A
	BSt L 10../K 04..-KK 25 V	—	—	—	240	—	—	330	—	—	—	—	—	A
	BSt N 10../K 04..-KK 25 V	—	—	—	330	—	—	460	—	—	—	—	—	A

With Thyristor-blocks above, and with diode-blocks can be mounted controlled and half-controlled stacks and assemblies similar to the Di-Block-stacks and assemblies as listed below.

e. g. with three blocks BSt N 1026/K 0440-KK 25 V1
one stack BSt 3 N 1026/3 K 0440-KK 25 V1
for -hDB 125/165-460 F

Ordering No.	Ordering dates designation
	1 set of connecting parts for B, oB, oDB, and DB-circuits
C 66117-A 6000-D1	stack with 6 blocks . . . KK 22 E
C 66117-A 6000-D2	stack with 3 blocks . . . KK 23 V
C 66117-A 6000-D3	stack with 3 blocks . . . KK 24 V
	HSR limiting capacitor
005116	0.5 µF 500 V_{RMS} B 25990-A 504-K
143297	Resistor GWS 20 SS 33 Ω
C 66117-A 6000-B8	HSR-limiting capacity set (2 capacitors, 2 resistors)
C 66117-A 6000-C14	Side part
C 66117-A 6000-C11	spacer for . . . KK 21 and . . . KK 23 (to the side part and between the blocks)
C 66117-A 6000-C12	spacer for . . . KK 22, . . . KK 24 and . . . KK 25 (between the blocks)
C 66117-A 6000-C13	spacer for . . . KK 22, . . . KK 24 and . . . KK 25 (to the side part)



Mechanical structure of stacks

Several blocks can be collected by simply filing using threaded bolts (M 8, $^5/_{16}$ in.) to form a stack. Just as easily the particular blocks are changeable without special tools. All block-types have go the same mechanical sizes, therefore the various types can be used in the same stack. In the same simple manner stacks can be assembled for various circuits of non-controlled up to controlled rectifiers.

Unconnected **stacks without** side parts

Circuit	Maximum d. c. current: Natural air cooling + 45° C A	Maximum d. c. current: Forced-air-cooling 6 m/sec + 35° C A	Input-/d. c. voltage Type	Ordering number	Input-/d. c. voltage Type	Ordering number
			125 V/55 V		**250 V/110 V**	
M	**90**	**230**	SSi 2 K04 20-KK23 M	C 66 117-A 6021-A1	SSi 2 K04 40-KK23 M	C 66 117-A 6021-A2
	120	**320**	SSi 2 K04 20-KK24 M	C 66 117-A 6025-A1	SSi 2 K04 40-KK24 M	C 66 117-A 6025-A2
	180	**430**	SSi 2 K04 20-KK22 E	C 66 117-A 6012-A1	SSi 2 K04 40-KK22 E	C 66 117-A 6012-A2
			125 V/110 V		**250 V/220 V**	
B	**90**	**230**	SSi 4 K04 20-KK23 V	C 66 117-A 6022-A11	SSi 4 K04 40-KK23 V	C 66 117-A 6022-A12
	120	**320**	SSi 4 K04 20-KK24 V	C 66 117-A 6026-A11	SSi 4 K04 40-KK24 V	C 66 117-A 6026-A12
	180	**430**	SSi 4 K04 20-KK22 E	C 66 117-A 6014-A1	SSi 4 K04 40-KK22 E	C 66 117-A 6014-A2
			125 V/85 V		**250 V/170 V**	
S	**270**	**600**	SSi 3 K04 20-KK22 E	C 66 117-A 6013-A1	SSi 3 K04 40-KK22 E	C 66 117-A 6013-A2
			125 V/165 V		**250 V/330 V**	
DB	**135**	**320**	SSi 6 K04 20-KK23 V	C 66 117-A 6023-A11	SSi 6 K04 40-KK23 V	C 66 117-A 6023-A12
	180	**450**	SSi 6 K04 20-KK24 V	C 66 117-A 6027-A11	SSi 6 K04 40-KK24 V	C 66 117-A 6027-A12
	270	**600**	SSi 6 K04 20-KK22 E	C 66 117-A 6016-A1	SSi 6 K04 40-KK22 E	C 66 117-A 6016-A2
			125 V/165 V		**250 V/330 V**	
oDB+E	**135**	**320**	SSi 8 K04 20-KK23 VM	C 66 117-A 6024-A41	SSi 8 K04 40-KK23 VM	C 66 117-A 6024-A42
	180	**450**	SSi 8 K04 20-KK24 VM	C 66 117-A 6028-A41	SSi 8 K04 40-KK24 VM	C 66 117-A 6028-A42
	270	**600**	SSi 7 K04 20-KK22 E	C 66 117-A 6017-A1	SSi 7 K04 40-KK22 E	C 66 117-A 6017-A2
			125 V/85 V		**250 V/170 V**	
DS (DSS*)	**230**	**530**	SSi 6 K04 20-KK23 M	C 66 117-A 6023-A1	SSi 6 K04 40-KK23 M	C 66 117-A 6023-A2
	300	**740**	SSi 6 K04 20-KK24 M	C 66 117-A 6027-A1	SSi 6 K04 40-KK24 M	C 66 117-A 6027-A2
	440	**970**	SSi 6 K04 20-KK22 E	C 66 117-A 6016-A1	SSi 6 K04 40-KK22 E	C 66 117-A 6016-A2

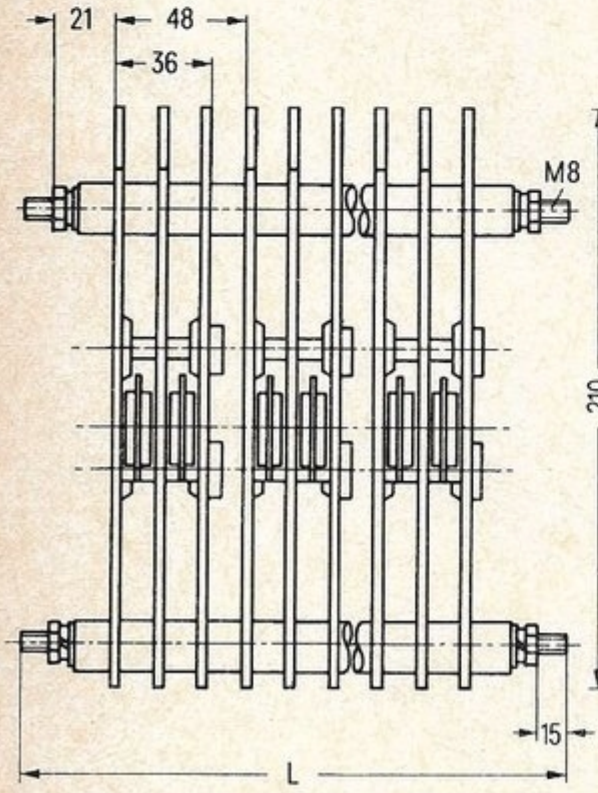


Fig. 1 SSi . . -KK23 V
. . -KK23 M

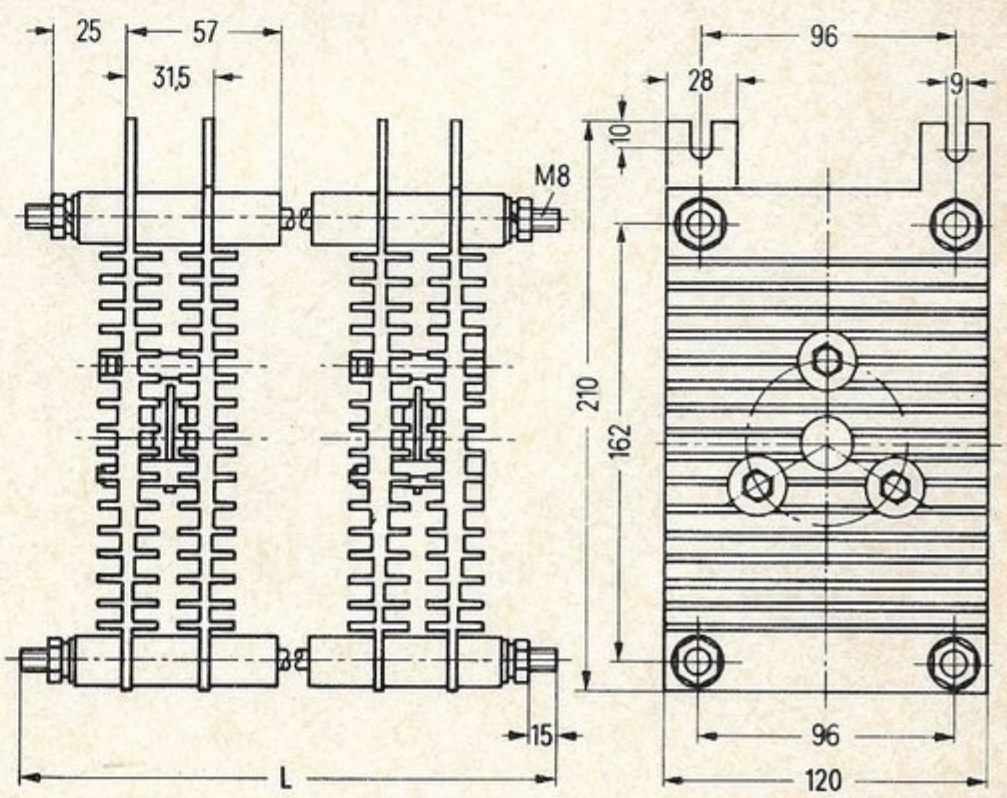


Fig. 2 SSi . . K04 . . -KK22 E

Input-/d. c. voltage Type	Ordering number	Input-/d. c. voltage Type	Ordering number	Net weigth kg	figure	Mounting dimensions L mm
380 V/170 V		**500/225 V**				
SSi 2 K04 60-KK23 M	C 66 117-A 6021-A3	SSi 2 K04 80-KK23 M	C 66 117-A 6021-A4	1,2	1	80
SSi 2 K04 60-KK24 M	C 66 117-A 6025-A3	SSi 2 K04 80-KK24 M	C 66 117-A 6025-A4	1,5	3	95
SSi 2 K04 60-KK22 E	C 66 117-A 6012-A3	SSi 2 K04 80-KK22 E	C 66 117-A 6012-A4	2,6	2	140
380 V/340 V		**500 V/450 V**				
SSi 4 K04 60-KK23 V	C 66 117-A 6022-A13	SSi 4 K04 80-KK23V	C 66 117-A 6022-A14	2,3	1	126
SSi 4 K04 60-KK24 V	C 66 117-A 6026-A13	SSi 4 K04 80-KK24 V	C 66 117-A 6026-A14	2,8	3	162
SSi 4 K04 60-KK22 E	C 66 117-A 6014-A3	SSi 4 K04 80-KK22 E	C 66 117-A 6014-A4	5,2	2	254
380 V/250 V		**500 V/340 V**				
SSi 3 K04 60-KK22 E	C 66 117-A 6013-A3	SSi 3 K04 80-KK22 E	C 66 117-A 6013-A4	3,8	2	197
380 V/500 V		**500 V/670 V**				
SSi 6 K04 60-KK23 V	C 66 117-A 6023-A13	SSi 6 K04 80-KK23 V	C 66 117-A 6023-A14	3,1	1	173
SSi 6 K04 60-KK24 V	C 66 117-A 6027-A13	SSi 6 K04 80-KK24 V	C 66 117-A 6027-A14	4,0	3	230
SSi 6 K04 60-KK22 E	C 66 117-A 6016-A3	SSi 6 K04 80-KK22 E	C 66 117-A 6016-A4	7,5	2	368
380 V/500 V		**500 V/670 V**				
SSi 8 K04 60-KK23 VM	C 66 117-A 6024-A43	SSi 8 K04 80-KK23 VM	C 66 117-A 6024-A44	3,9	1	220
SSi 8 K04 60-KK24 VM	C 66 117-A 6028-A43	SSi 8 K04 80-KK24 VM	C 66 117-A 6028-A44	5,6	3	296
SSi 7 K04 60-KK22 E	C 66 117-A 6017-A3	SSi 7 K04 80-KK22 E	C 66 117-A 6017-A4	8,6	2	425
380 V/250 V		**500 V/340 V**				
SSi 6 K04 60-KK23 M	C 66 117-A 6023-A3	SSi 6 K04 80-KK23 M	C 66 117-A 6023-A4	3,1	1	173
SSi 6 K04 60-KK24 M	C 66 117-A 6027-A3	SSi 6 K04 80-KK24 M	C 66 117-A 6027-A4	4,0	3	230
SSi 6 K04 60-KK22 E	C 66 117-A 6016-A3	SSi 6 K04 80-KK22 E	C 66 117-A 6016-A4	7,5	2	368

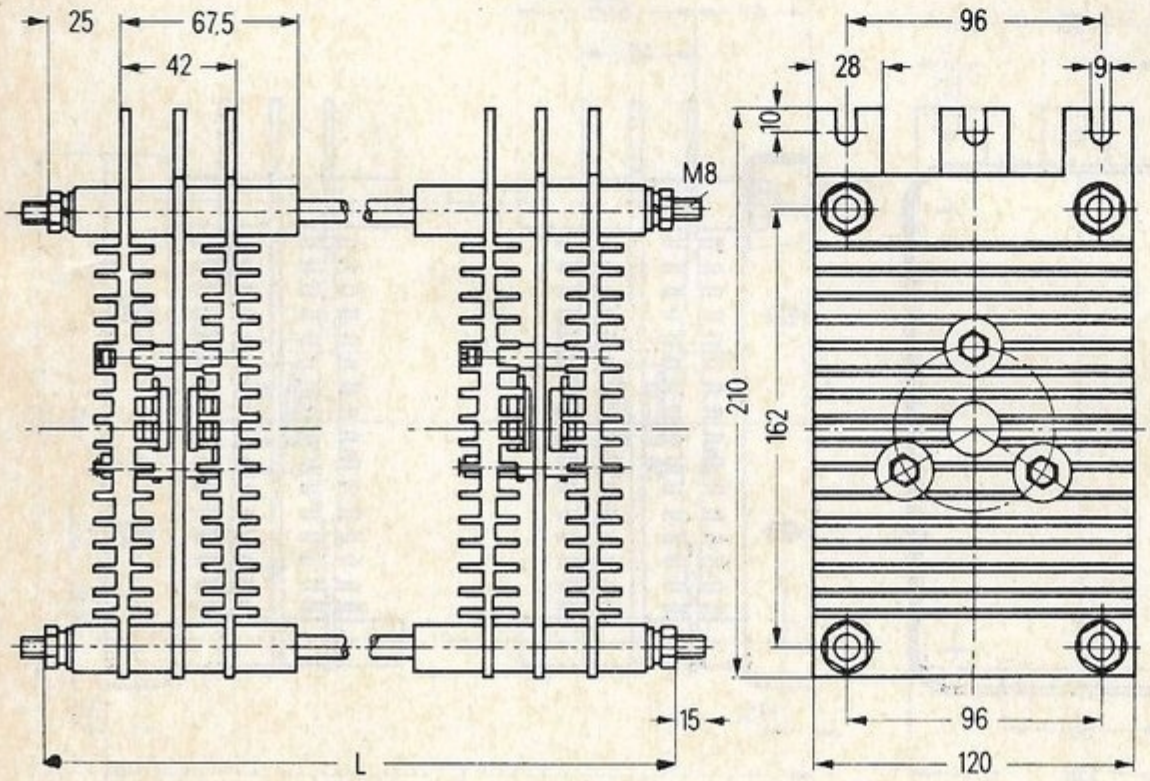


Fig. 3 SSi..K04..-KK24 V
..-KK24 M

*) Used in a double star circuit with an interphase transformer (DSS-circuit):
current rating about +20%
rated d. c. voltage about −15%

Unconnected **stacks with** side parts

Circuit	Maximum d. c. current: Natural air cooling + 45° C A	Maximum d. c. current: Forced-air-cooling 6 m/sec + 35° C A	Input-/d. c. voltage	Ordering number	Input-/d. c. voltage Type	Ordering number
			125 V/55 V		**250 V/110 V**	
M	**90**	**230**	SSi 2 K04 20-KK23 M	C 66 117-A 6021-A21	SSi 2 K04 40-KK23 M	C 66 117-A 6021-A22
	120	**320**	SSi 2 K04 20-KK24 M	C 66 117-A 6025-A21	SSi 2 K04 40-KK24 M	C 66 117-A 6025-A22
	180	**430**	SSi 2 K04 20-KK22 E	C 66 117-A 6012-A11	SSi 2 K04 40-KK22 E	C 66 117-A 6012-A12
			125 V/110 V		**250 V/220 V**	
B	**90**	**230**	SSi 4 K04 20-KK23 V	C 66 117-A 6022-A31	SSi 4 K04 40-KK23 V	C 66 117-A 6022-A32
	120	**320**	SSi 4 K04 20-KK24 V	C 66 117-A 6026-A31	SSi 4 K04 40-KK24 V	C 66 117-A 6026-A32
	180	**430**	SSi 4 K04 20-KK22 E	C 66 117-A 6014-A11	SSi 4 K04 40-KK22 E	C 66 117-A 6014-A12
			125 V/85 V		**250 V/170 V**	
S	**270**	**600**	SSi 3 K04 20-KK22 E	C 66 117-A 6013-A11	SSi 3 K04 40-KK22 E	C 66 117-A 6013-A12
			125 V/165 V		**250 V/330 V**	
DB	**135**	**320**	SSi 6 K04 20-KK23 V	C 66 117-A 6023-A31	SSi 6 K04 40-KK23 V	C 66 117-A 6023-A32
	180	**450**	SSi 6 K04 20-KK24 V	C 66 117-A 6027-A31	SSi 6 K04 40-KK24 V	C 66 117-A 6027-A32
	270	**600**	SSi 6 K04 20-KK22 E	C 66 117-A 6016-A11	SSi 6 K04 40-KK22 E	C 66 117-A 6016-A12
			125 V/165 V		**250 V/330 V**	
oDB+E	**135**	**320**	SSi 8 K04 20-KK23 VM	C 66 117-A 6024-A51	SSi 8 K04 40-KK23 VM	C 66 117-A 6024-A52
	180	**450**	SSi 8 K04 20-KK24 VM	C 66 117-A 6028-A51	SSi 8 K04 40-KK24 VM	C 66 117-A 6028-A52
	270	**600**	SSi 7 K04 20-KK22 E	C 66 117-A 6017-A11	SSi 7 K04 40-KK22 E	C 66 117-A 6017-A12
			125 V/85 V		**250 V/170 V**	
DS	**230**	**530**	SSi 6 K04 20-KK23 M	C 66 117-A 6023-A21	SSi 6 K04 40-KK23 M	C 66 117-A 6023-A22
(DSS*)	**300**	**740**	SSi 6 K04 20-KK24 M	C 66 117-A 6027-A21	SSi 6 K04 40-KK24 M	C 66 117-A 6027-A22
	440	**970**	SSi 6 K04 20-KK22 E	C 66 117-A 6016-A11	SSi 6 K04 40-KK22 E	C 66 117-A 6016-A12

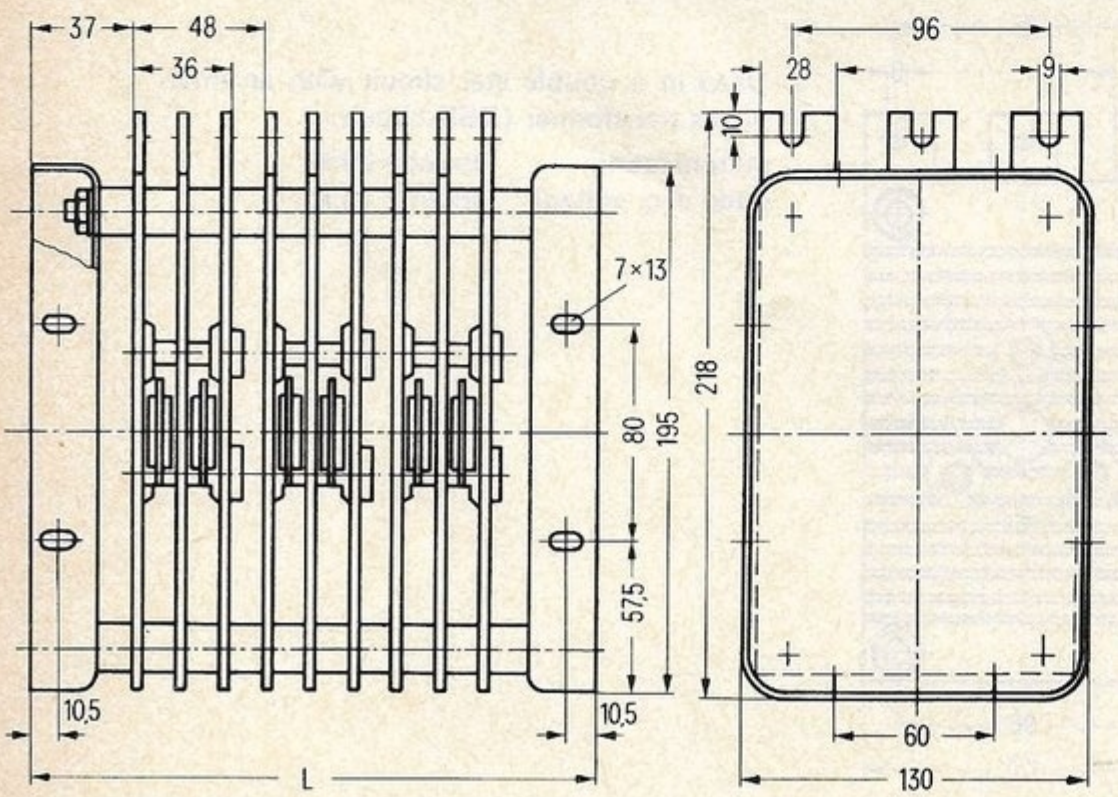


Fig. 1 SSi . . K04 . . -KK23 V
. . -KK23 M

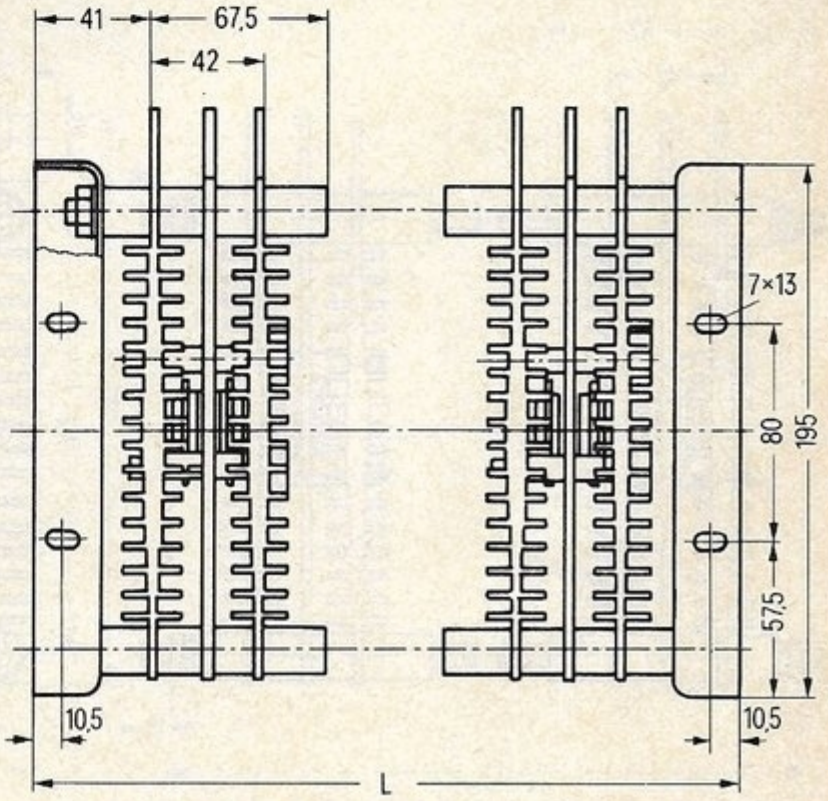


Fig. 2 SSi . . K04. . -KK24 V
. . -KK24 M

Input-/d. c. voltage Type	Ordering number	Input-/d. c. voltage Type	Ordering number	Net weight kg	figure	Dimension L mm
380 V/170 V		**500/225 V**				
SSi 2 K04 60-KK23 M	C 66 117-A 6021-A23	SSi 2 K04 80-KK23 M	C 66 117-A 6021-A24	2,2	1	110
SSi 2 K04 60-KK24 M	C 66 117-A 6025-A23	SSi 2 K04 80-KK24 M	C 66 117-A 6025-A24	2,5	2	124
SSi 2 K04 60-KK22 E	C 66 117-A 6012-A13	SSi 2 K04 80-KK22 E	C 66 117-A 6012-A14	3,6	3	171
380 V/340 V		**500 V/450 V**				
SSi 4 K04 60-KK23 V	C 66 117-A 6022-A33	SSi 4 K04 80-KK23V	C 66 117-A 6022-A34	3,3	1	158
SSi 4 K04 60-KK24 V	C 66 117-A 6026-A33	SSi 4 K04 80-KK24 V	C 66 117-A 6026-A34	3,8	2	192
SSi 4 K04 60-KK22 E	C 66 117-A 6014-A13	SSi 4 K04 80-KK22 E	C 66 117-A 6014-A14	6,2	3	285
380 V/250 V		**500 V/340 V**				
SSi 3 K04 60-KK22 E	C 66 117-A 6013-A13	SSi 3 K04 80-KK22 E	C 66 117-A 6013-A14	4,8	3	228
380 V/500 V		**500 V/670 V**				
SSi 6 K04 60-KK23 V	C 66 117-A 6023-A33	SSi 6 K04 80-KK23 V	C 66 117-A 6023-A34	4,1	1	206
SSi 6 K04 60-KK24 V	C 66 117-A 6027-A33	SSi 6 K04 80-KK24 V	C 66 117-A 6027-A34	5,0	2	259
SSi 6 K04 60-KK22 E	C 66 117-A 6016-A13	SSi 6 K04 80-KK22 E	C 66 117-A 6016-A14	8,5	3	399
380 V/500 V		**500 V/670 V**				
SSi 8 K04 60-KK23 VM	C 66 117-A 6024-A53	SSi 8 K04 80-KK23 VM	C 66 117-A 6024-A54	4,9	1	254
SSi 8 K04 60-KK24 VM	C 66 117-A 6028-A53	SSi 8 K04 80-KK24 VM	C 66 117-A 6028-A54	6,4	2	327
SSi 7 K04 60-KK22 E	C 66 117-A 6017-A13	SSi 7 K04 80-KK22 E	C 66 117-A 6017-A14	9,6	3	456
380 V/250 V		**500 V/340 V**				
SSi 6 K04 60-KK23 M	C 66 117-A 6023-A23	SSi 6 K04 80-KK23 M	C 66 117-A 6023-A24	4,1	1	206
SSi 6 K04 60-KK24 M	C 66 117-A 6027-A23	SSi 6 K04 80-KK24 M	C 66 117-A 6027-A24	5,0	2	259
SSi 6 K04 60-KK22 E	C 66 117-A 6016-A13	SSi 6 K04 80-KK22 E	C 66 117-A 6016-A14	8,5	3	399

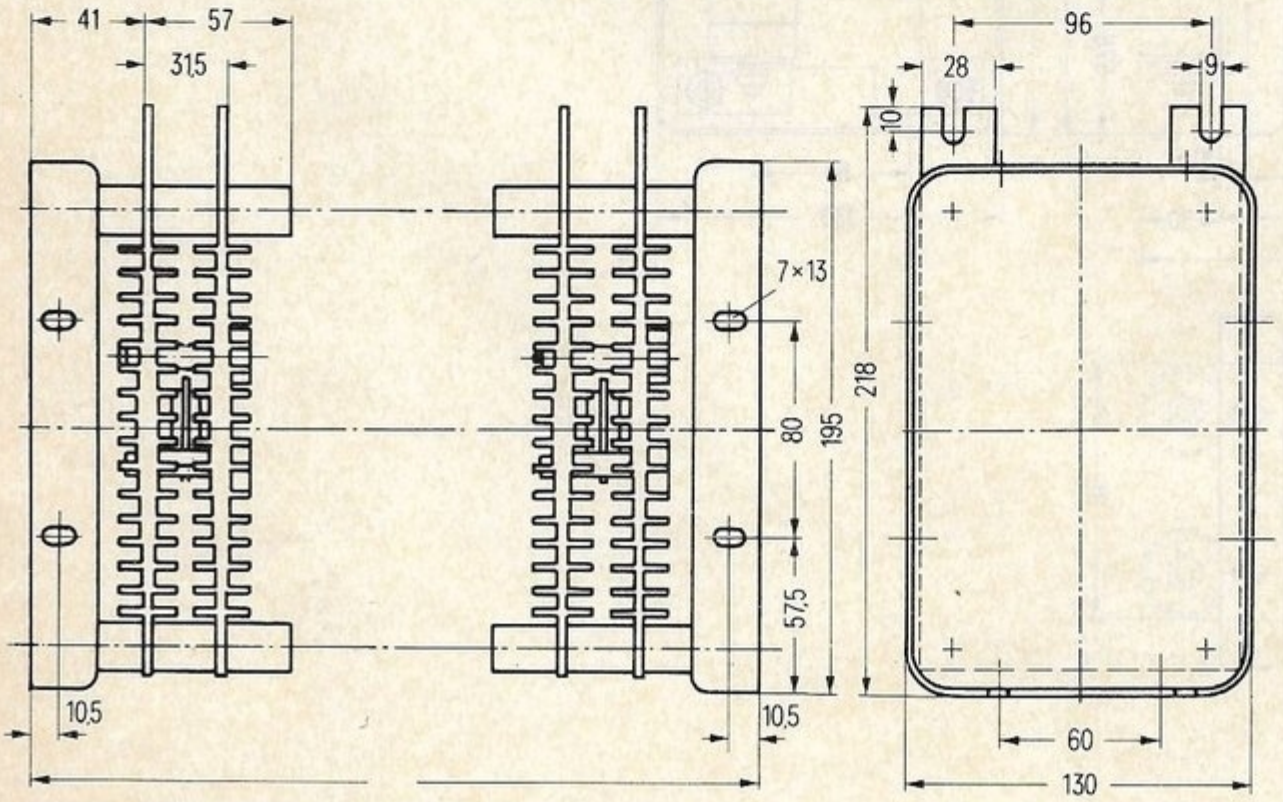


Fig. 3 SSi . . K04-KK22 E

* Used in a double star circuit with an inter-phase transformer (DSS-circuit):

current rating about +20%
rated d. c. voltage about −15%

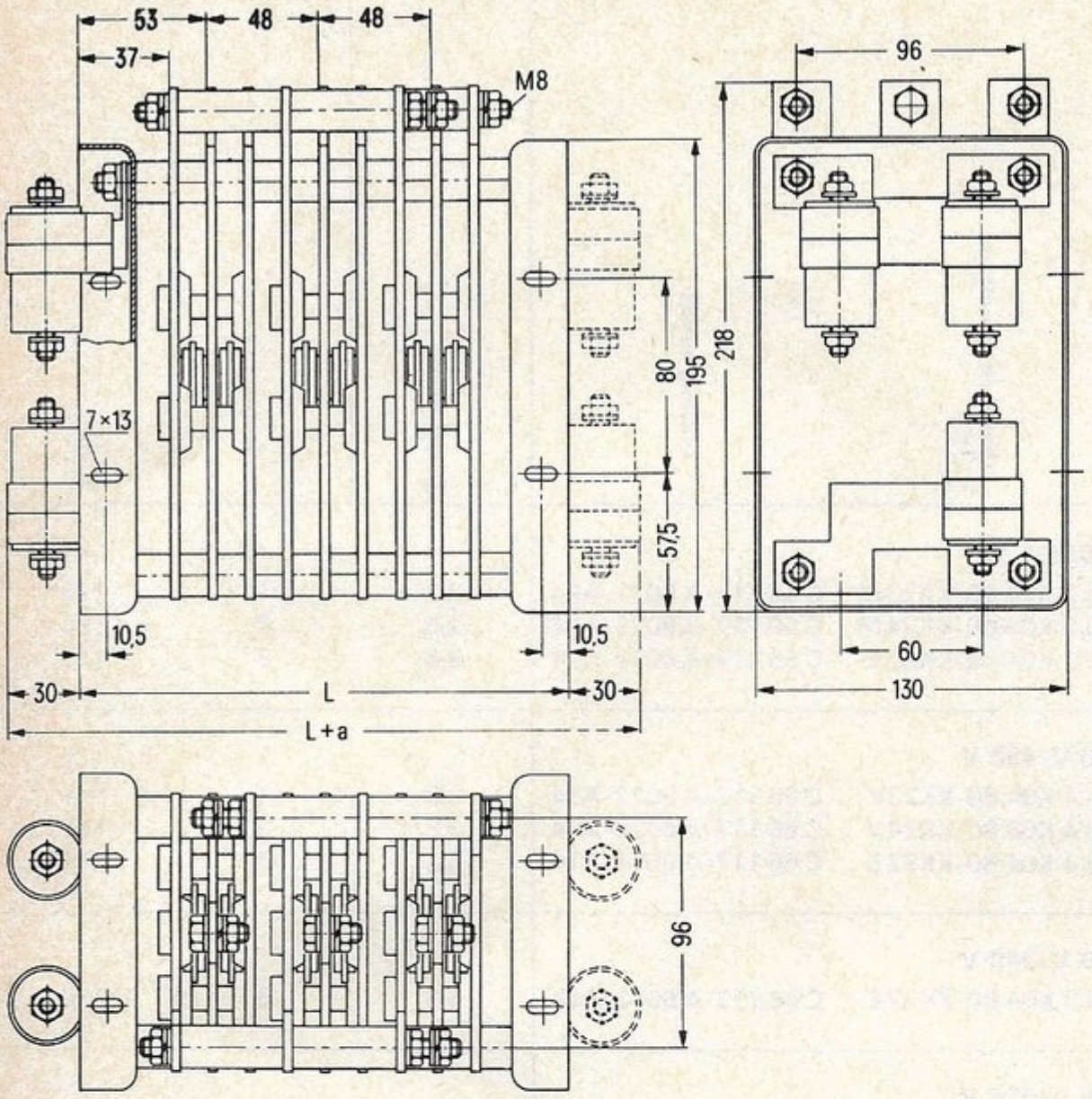


Fig. 1 SSi . . K04C- . . (with KK 23M or V)

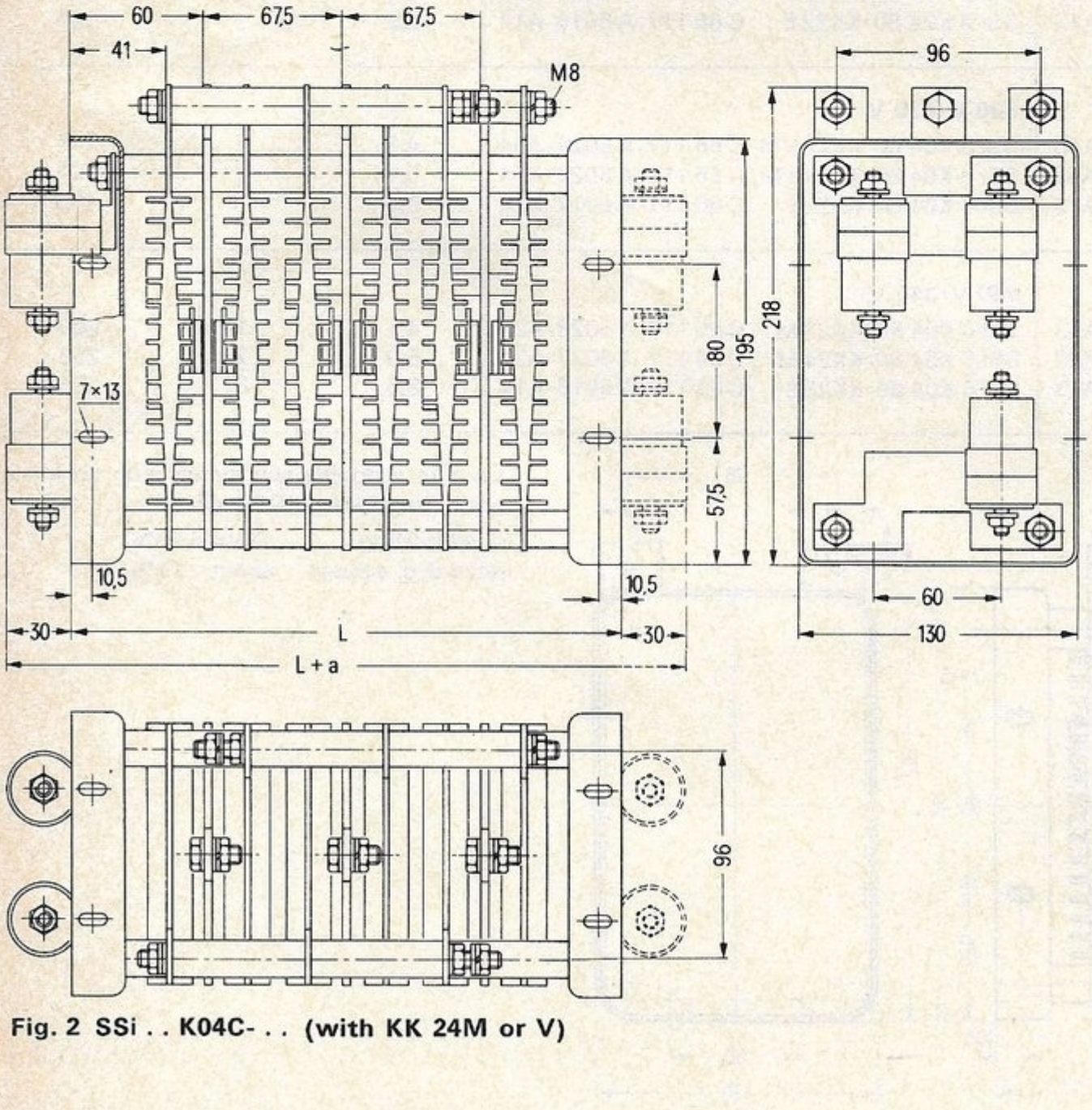


Fig. 2 SSi . . K04C- . . (with KK 24M or V)

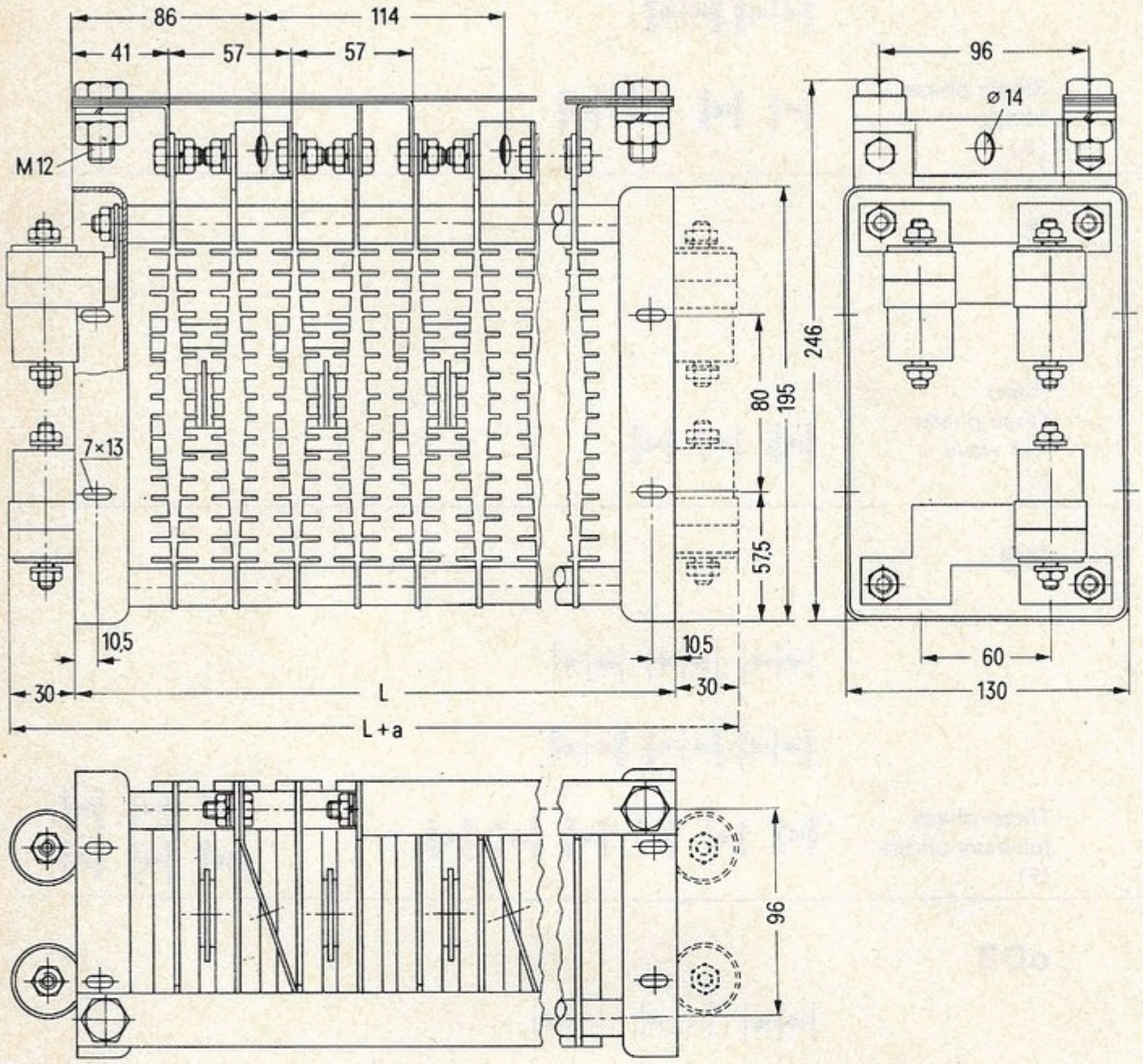
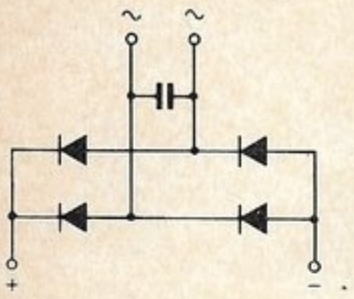


Fig. 3 SSi . . K04C- . . (with KK22E)



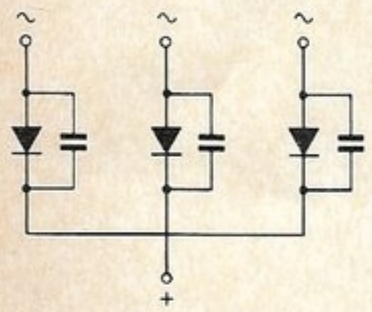
circuit

B

structure
1-etagig
in 1 tier

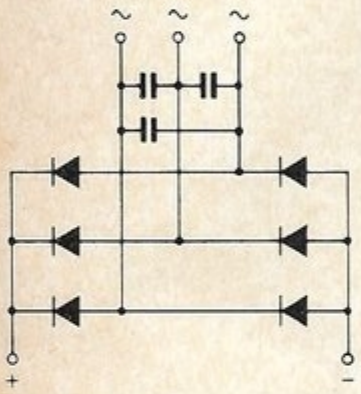
structure
2-etagig
in 2 tiers

Single phase
bridge
(B)



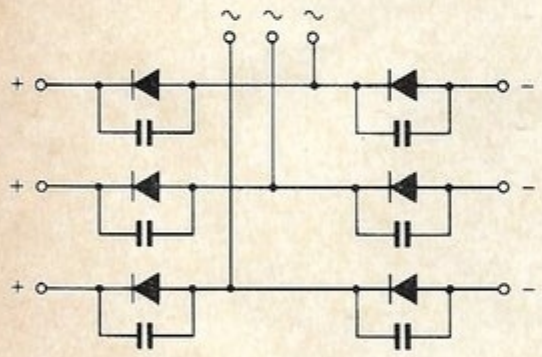
S

(Star)
Three phase
half wave
(Y)



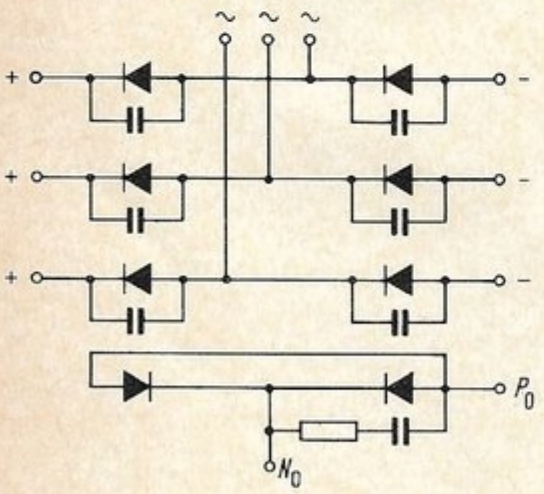
DB

Three-phase
fullwave bridge
(F)



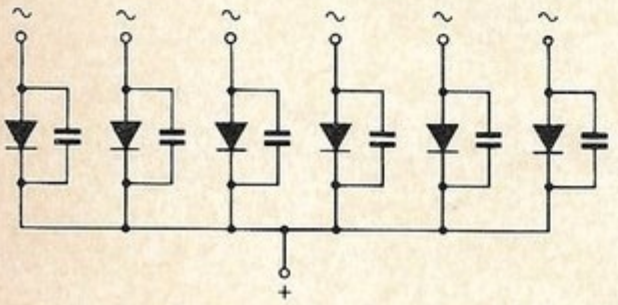
oDB

Three-phase
bridge
open



oDB+E

open
Three-phase
bridge
with
free wheeling
diode



DS (DSS)

Six phase or
double star
(double star with
interphase transformer)

Connected **assemblies with ventilator** with **disc diodes**

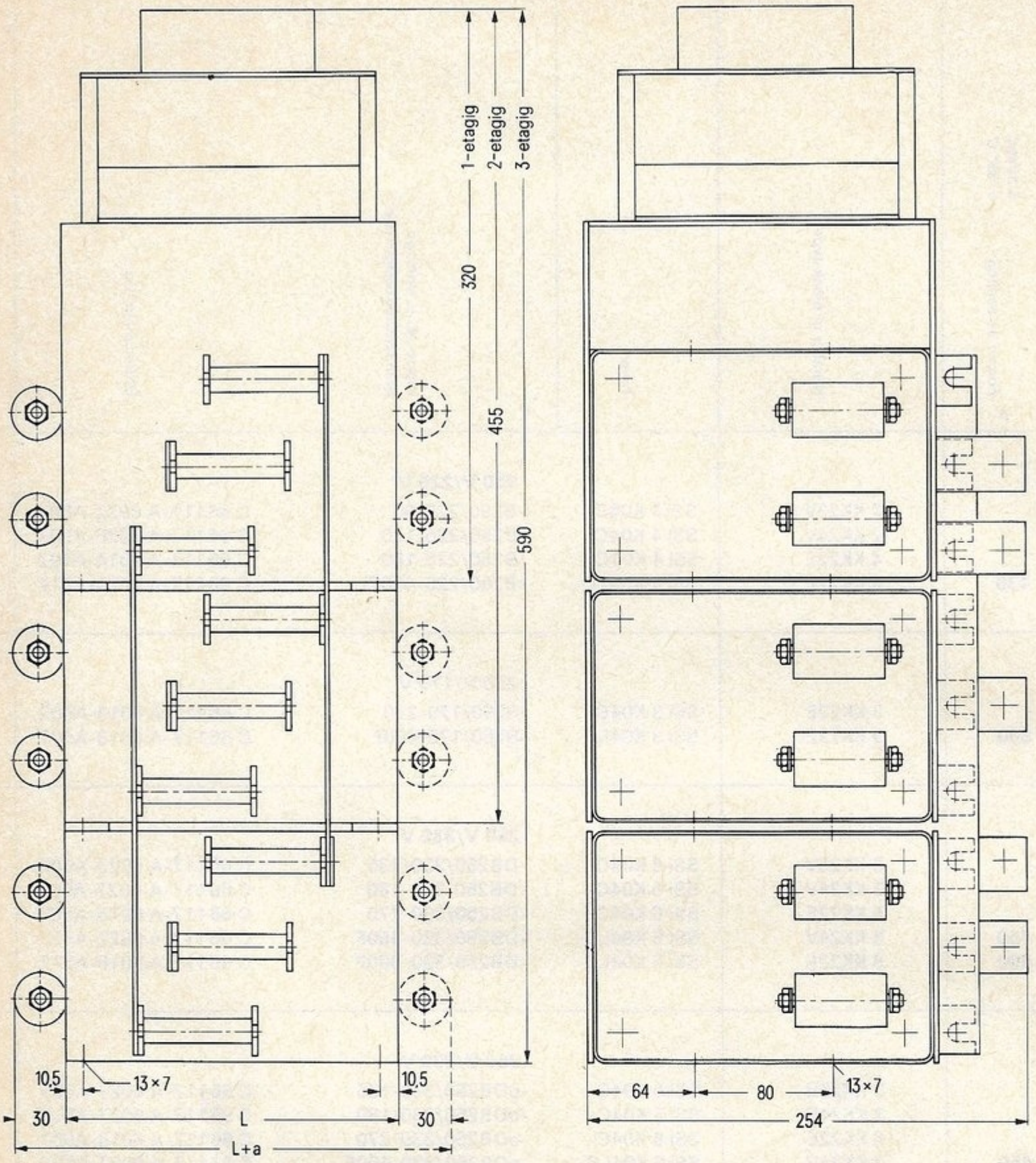


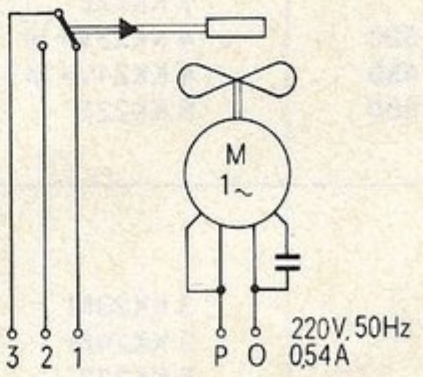
Fig. 4 SSi . . K04 LC- . .

in 1 tier	in 2 tiers

Further details see Fig. 1, 2 and 3

Number of capacitors, configuration of connections are dependend of rectifier type und circuit.

Circuit of ventilator



Connected **assemblies**

Circuit	Maximum d. c. current: Natural air cooling + 45° C A	Maximum d. c. current: Forced air cooling 6 m/sec + 35° C A	Number of block-type	Type	Input-/d. c. voltage Standardized designation	Ordering number
					250 V/225 V	
B	● **90**		2 KK23V	SSi 4 K04C-	-B250/225-90	C 66117-A 6022-A502
	● **120**		2 KK24V	SSi 4 K04C-	-B250/225-120	C 66117-A 6026-A502
	● **180**		4 KK22E	SSi 4 K04C-	-B250/225-180	C 66117-A 6014-A502
	⋈ ●	**430**	4 KK22E	SSi 4 K04LC-	-B250/225-430F	C 66117-A 6014-A512
					250 V/170 V	
S	● **270**		3 KK22E	SSi 3 K04C-	-S250/170-270	C 66117-A 6013-A502
	⋈ ●	**600**	3 KK22E	SSi 3 K04LC-	-S250/170-600F	C 66117-A 6013-A507
					250 V/330 V	
DB	● **135**		3 KK23V	SSi 6 K04C-	-DB250/330-135	C 66117-A 6023-A502
	● **180**		3 KK24V	SSi 6 K04C-	-DB250/330-180	C 66117-A 6027-A502
	● **270**		6 KK22E	SSi 6 K04C-	-DB250/330-270	C 66117-A 6016-A502
	⋈ ●	**450**	3 KK24V	SSi 6 K04LC-	-DB250/330-450F	C 66117-A 6027-A517
	⋈ ●	**600**	6 KK22E	SSi 6 K04LC-	-DB250/330-600F	C 66117-A 6016-A517
					250 V/330 V	
oDB	● **135**		3 KK23V	SSi 6 K04C-	-oDB250/330-135	C 66117-A 6023-A507
	● **180**		3 KK24V	SSi 6 K04C-	-oDB250/330-180	C 66117-A 6027-A507
	● **270**		6 KK22E	SSi 6 K04C-	-oDB250/330-270	C 66117-A 6016-A507
	⋈ ●	**450**	3 KK24V	SSi 6 K04LC-	-oDB250/330-450F	C 66117-A 6027-A522
	⋈ ●	**600**	6 KK22E	SSi 6 K04LC-	-oDB250/330-600F	C 66117-A 6016-A522
					250 V/330 V	
oDB+E	● **135**		4 KK23V+M	SSi 8 K04C-	-oDB250/330-135+E	C 66117-A 6024-A507
	● **180**		4 KK24V+M	SSi 8 K04C-	-oDB250/330-180+E	C 66117-A 6028-A502
	● **270**		7 KK22E	SSi 7 K04C-	-oDB250/330-270+E	C 66117-A 6017-A507
	⋈ ●	**320**	4 KK23V+M	SSi 8 K04LC-	-oDB250/330-320F+E	C 66117-A 6024-A517
	⋈ ●	**450**	4 KK24V+M	SSi 8 K04LC-	-oDB250/330-450F+E	C 66117-A 6028-A507
	⋈ ●	**600**	8 KK22E	SSi 8 K04LC-	-oDB250/330-600F+E	C 66117-A 6017-A512
					250 V/170 V	
DS	● **230**		3 KK23M	SSi 6 K04C-	-DS250/170-230	C 66117-A 6023-A512
(DSS*)	● **300**		3 KK24M	SSi 6 K04C-	-DS250/170-300	C 66117-A 6027-A512
	● **440**		6 KK22E	SSi 6 K04C-	-DS250/170-440	C 66117-A 6016-A512
	⋈ ●	**740**	3 KK24M	SSi 6 K04LC-	-DS250/170-740F	C 66117-A 6027-A527
	⋈ ●	**970**	6 KK22E	SSi 6 K04LC-	-DS250/170-970F	C 66117-A 6016-A527

● with Hole storage networks

⋈ complete with ventilator

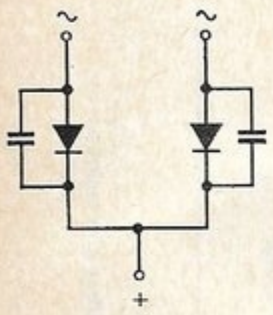
Input-/d. c. voltage Standardized designation	Ordering number	Input-/d. c. voltage Standardized designation	Ordering number	Net weight kg	Page/figure	Mounting dimensions L+a mm
380 V/340 V		**500 V/450 V**				
-B380/340-90	C 66 117-A 6022-A503	-B500/450-90	C 66 117-A 6022-A504	4,0	140/1	158 + 30
-B380/340-120	C 66 117-A 6026-A503	-B500/450-120	C 66 117-A 6026-A504	4,8	140/2	192 + 30
-B380/340-180	C 66 117-A 6014-A503	-B500/450-180	C 66 117-A 6014-A504	7,0	141/3	285 + 30
-B380/340-430F	C 66 117-A 6014-A513	-B500/450-430F	C 66 117-A 6014-A514	12,0	143/4.1	285 + 30
380 V/250 V		**500 V/340 V**				
-S380/250-270	C 66 117-A 6013-A503	-S500/340-270	C 66 117-A 6013-A504	5,5	141/3	228 + 30
-S380/250-600F	C 66 117-A 6013-A508	-S500/340-600F	C 66 117-A 6013-A509	10,0	143/4.1	228 + 30
380 V/500 V		**500 V/670 V**				
-DB380/500-135	C 66 117-A 6023-A503	-DB500/670-135	C 66 117-A 6023-A504	5,0	140/1	206 + 30
-DB380/500-180	C 66 117-A 6027-A503	-DB500/670-180	C 66 117-A 6027-A504	6,0	140/2	259 + 30
-DB380/500-270	C 66 117-A 6016-A503	-DB500/670-270	C 66 117-A 6016-A504	9,8	141/3	399 + 30
-DB380/500-450F	C 66 117-A 6027-A518	-DB500/670-450F	C 66 117-A 6027-A519	11,0	143/4.1	259 + 30
-DB380/500-600F	C 66 117-A 6016-A518	-DB500/670-600F	C 66 117-A 6016-A519	20,0	143/4.2	228 + 30
380 V/500 V		**500 V/670 V**				
-oDB380/500-135	C 66 117-A 6023-A508	-oDB500/670-135	C 66 117-A 6023-A509	4,8	140/1	206 + 60
-oDB380/500-180	C 66 117-A 6027-A508	-oDB500/670-180	C 66 117-A 6027-A509	5,9	140/2	259 + 60
-oDB380/500-270	C 66 117-A 6016-A508	-oDB500/670-270	C 66 117-A 6016-A509	9,7	141/3	399 + 60
-oDB380/500-450F	C 66 117-A 6027-A523	-oDB500/670-450F	C 66 117-A 6027-A524	10,8	143/4.1	259 + 60
-oDB380/500-600F	C 66 117-A 6016-A523	-oDB500/670-600F	C 66 117-A 6016-A524	19,8	143/4.2	228 + 60
380 V/500 V		**500 V/670 V**				
-oDB380/500-135+E	C 66 117-A 6024-A508	-oDB500/670-135+E	C 66 117-A 6024-A509	6,0	140/1	245 + 60
-oDB380/500-180+E	C 66 117-A 6028-A503	-oDB500/670-180+E	C 66 117-A 6028-A504	7,2	140/2	327 + 60
-oDB380/500-270+E	C 66 117-A 6017-A508	-oDB500/670-270+E	C 66 117-A 6017-A509	11,0	141/3	456 + 60
-oDB380/500-320F+E	C 66 117-A 6024-A518	-oDB500/670-320F+E	C 66 117-A 6024-A519	11,0	143/4.1	254 + 60
-oDB380/500-450F+E	C 66 117-A 6028-A508	-oDB500/670-450F+E	C 66 117-A 6028-A509	12,1	143/4.1	327 + 60
-oDB380/500-600F+E	C 66 117-A 6017-A513	-oDB500/670-600F+E	C 66 117-A 6017-A514	21,5	143/4.2	285 + 60
380 V/250 V		**500 V/340 V**				
-DS380/250-230	C 66 117-A 6023-A513	-DS500/340-230	C 66 117-A 6023-A514	5,0	140/1	206 + 60
-DS380/250-300	C 66 117-A 6027-A513	-DS500/340-300	C 66 117-A 6027-A514	6,0	140/2	259 + 60
-DS380/250-440	C 66 117-A 6016-A514	-DS500/340-440	C 66 117-A 6016-A514	9,8	141/3	399 + 60
-DS380/250-740F	C 66 117-A 6027-A528	-DS500/340-740F	C 66 117-A 6027-A529	11,0	143/4.1	259 + 60
-DS380/250-970F	C 66 117-A 6016-A528	-DS500/340-970F	C 66 117-A 6016-A529	20,0	143/4.2	228 + 60

*) Used in a double star circuit with an interphase transformer (DSS-circuit):

current rating about +20%
rated dc voltage about −15%

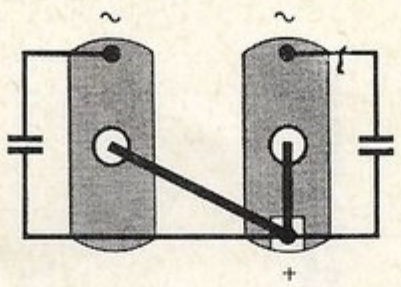
Assemblies on insulator strip with **stud mounted diodes**

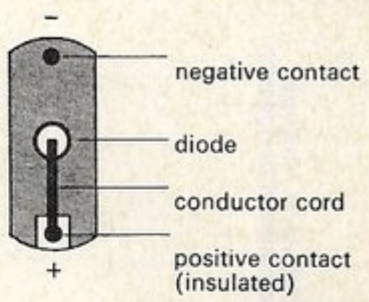
Circuit

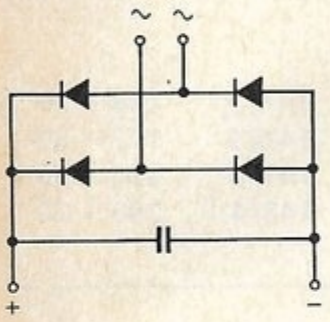


M

Single phase
center-tap
(C)

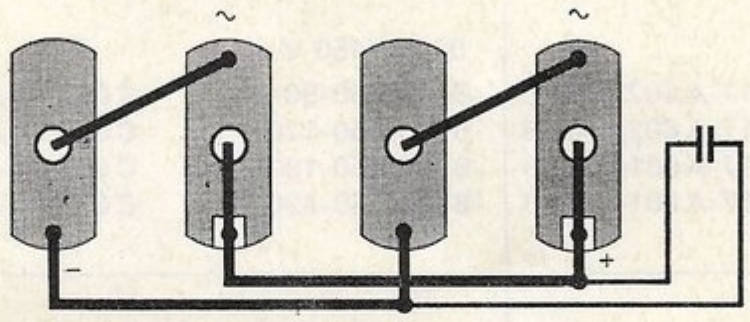


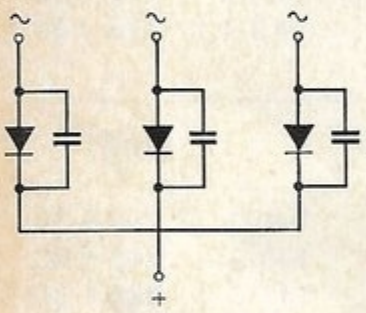




B

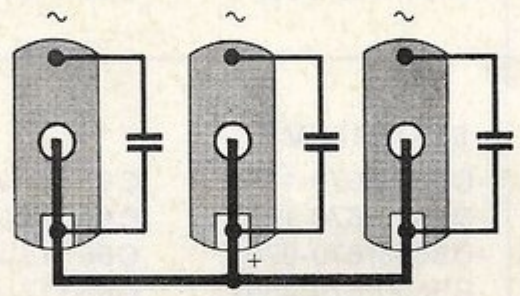
Single phase
bridge
(B)

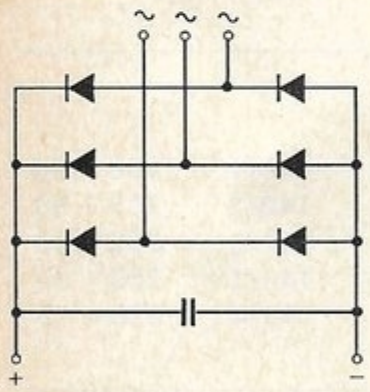




S

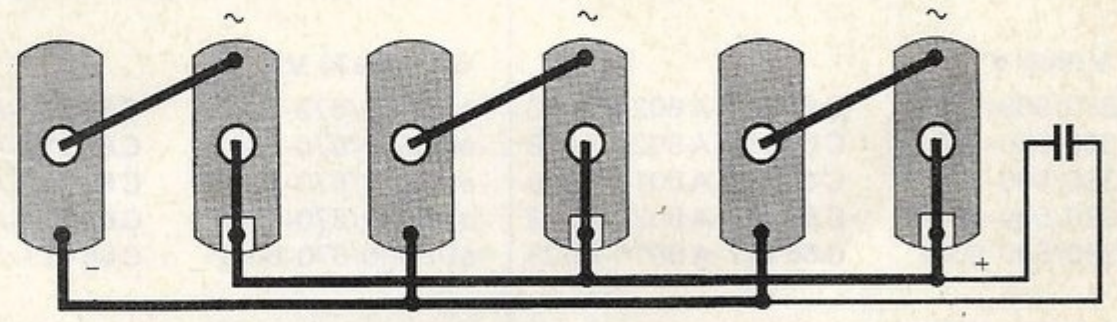
(Star)
Three phase
half wave
(Y)

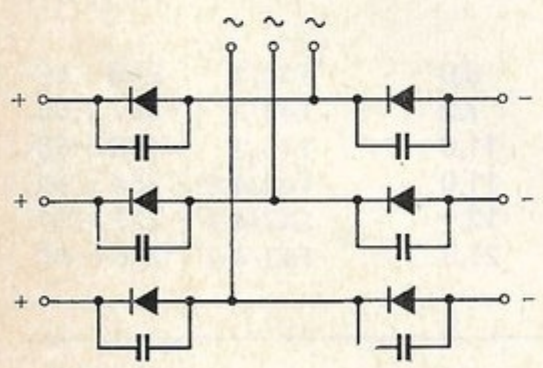




DB

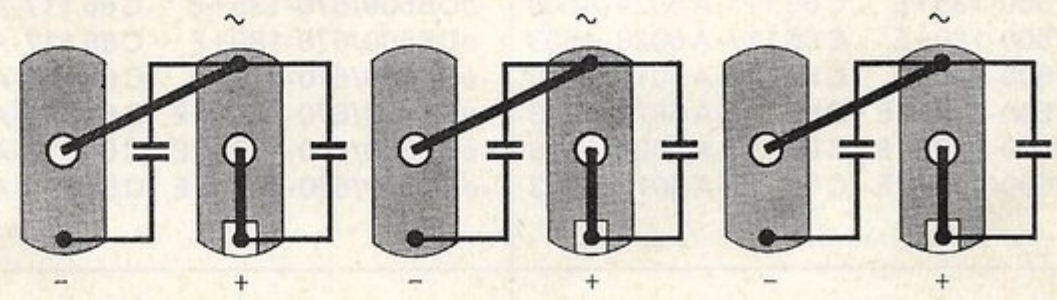
Three phase
fullwave bridge
(F)

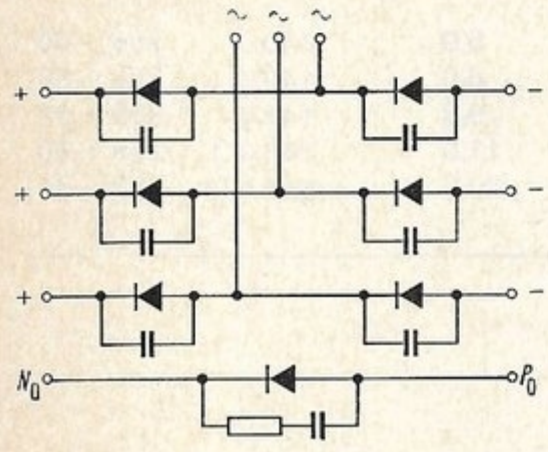




oDB

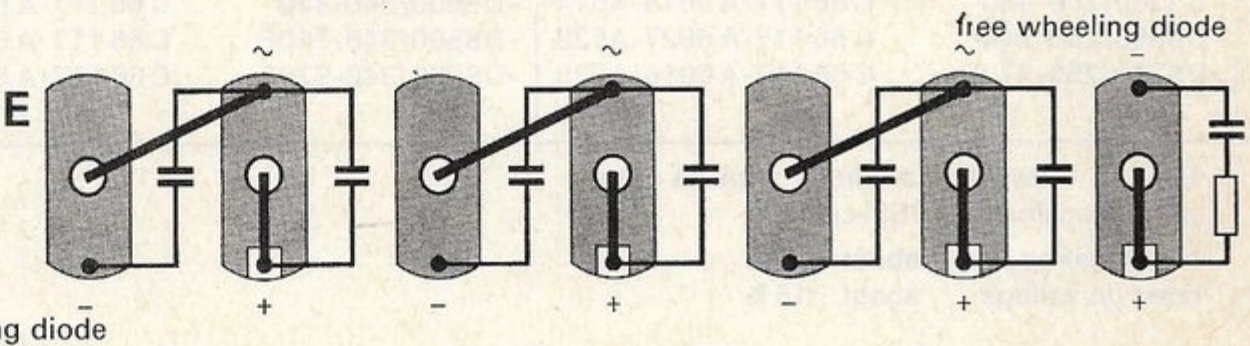
three phase
bridge
open





oDB+E

open
three phase
bridge with
free wheeling diode



Assemblies on insulator strip with **stud mounted diodes**

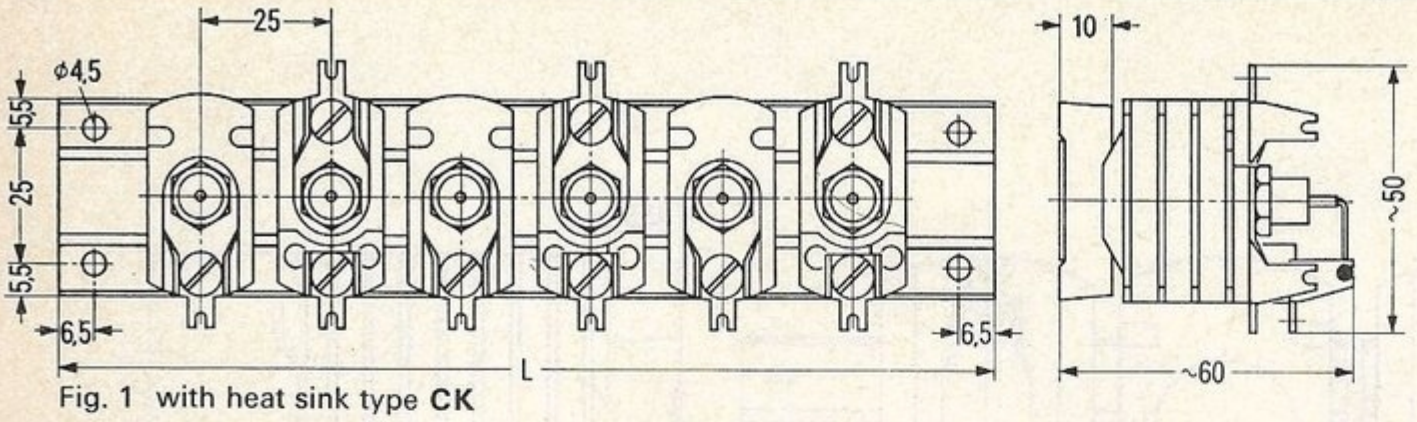


Fig. 1 with heat sink type **CK**

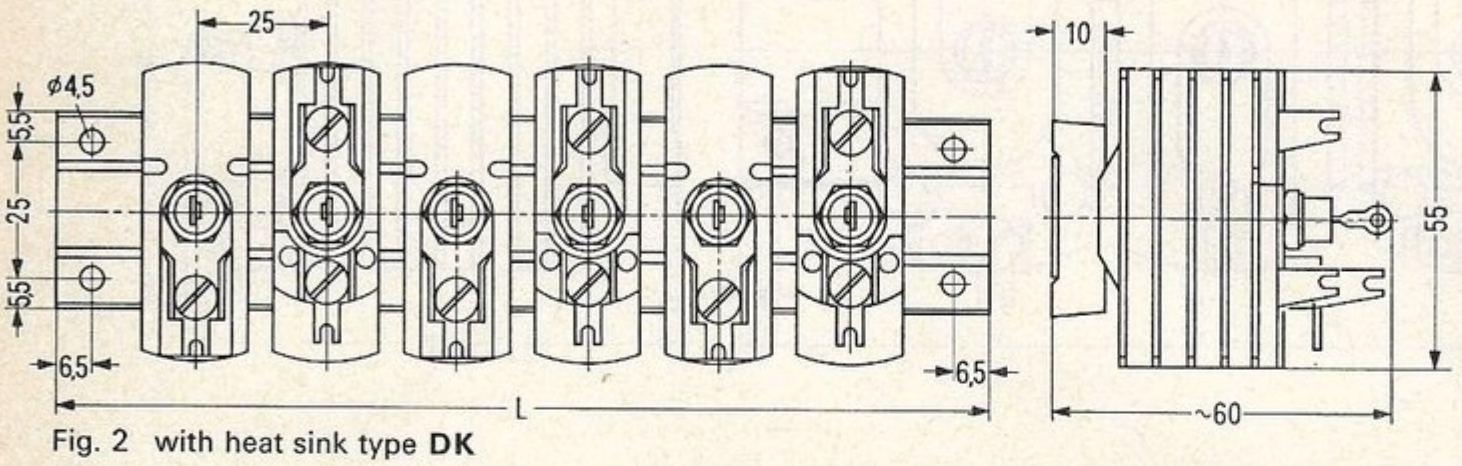


Fig. 2 with heat sink type **DK**

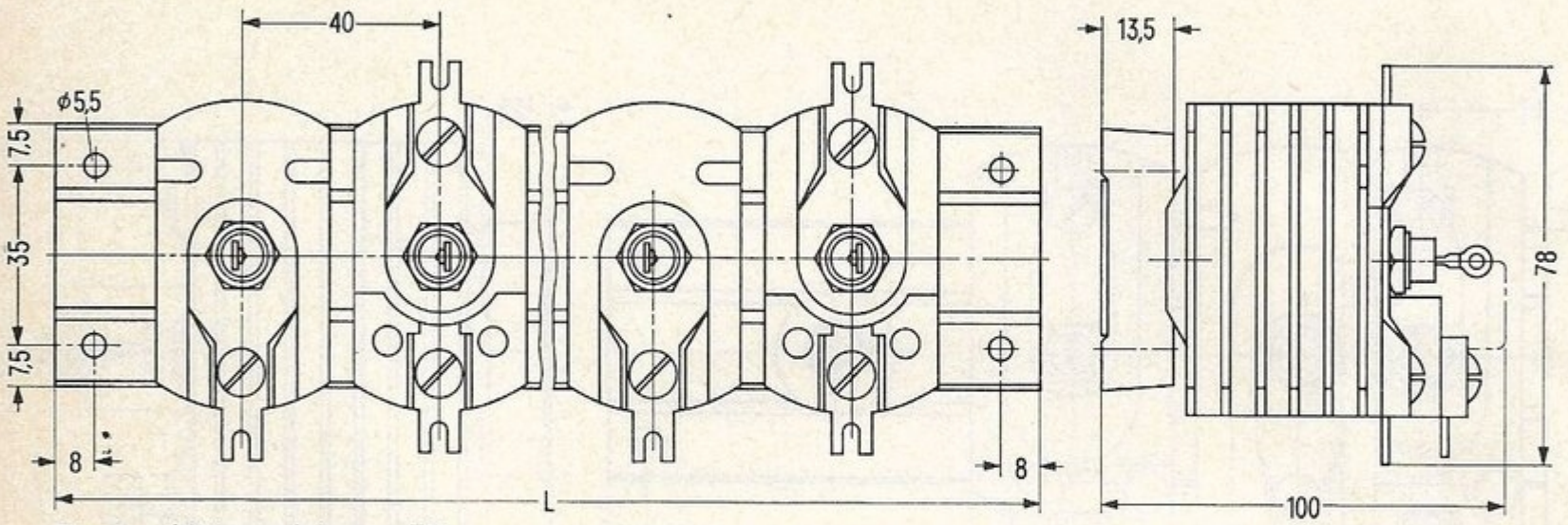


Fig. 3 with heat sink type **EK**

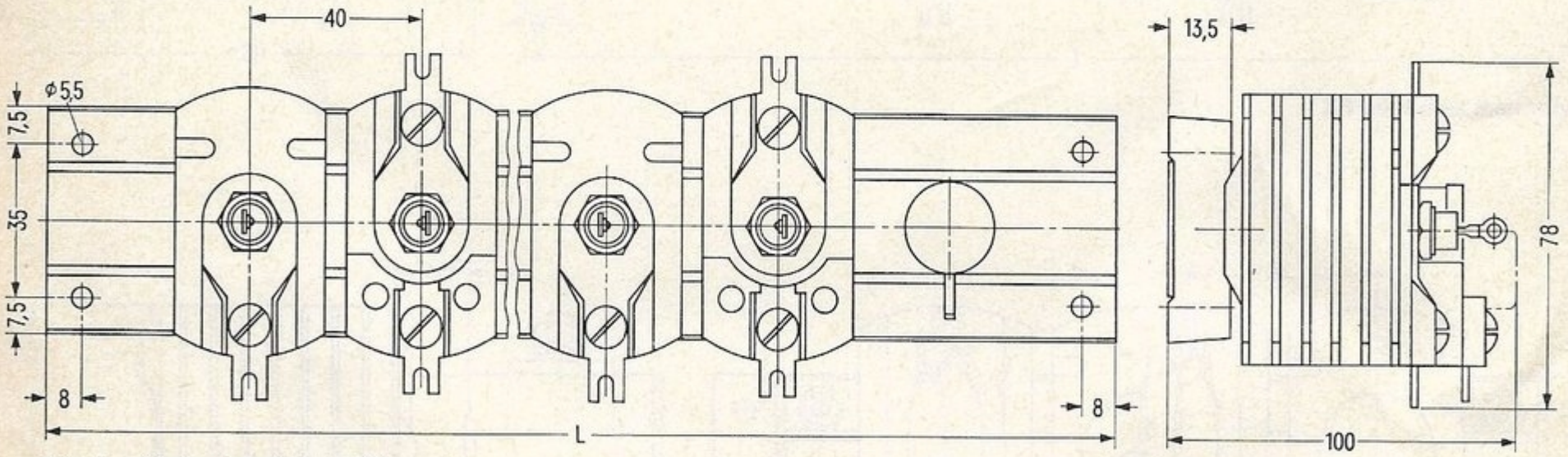


Fig. 4 with heat sink type **EK**

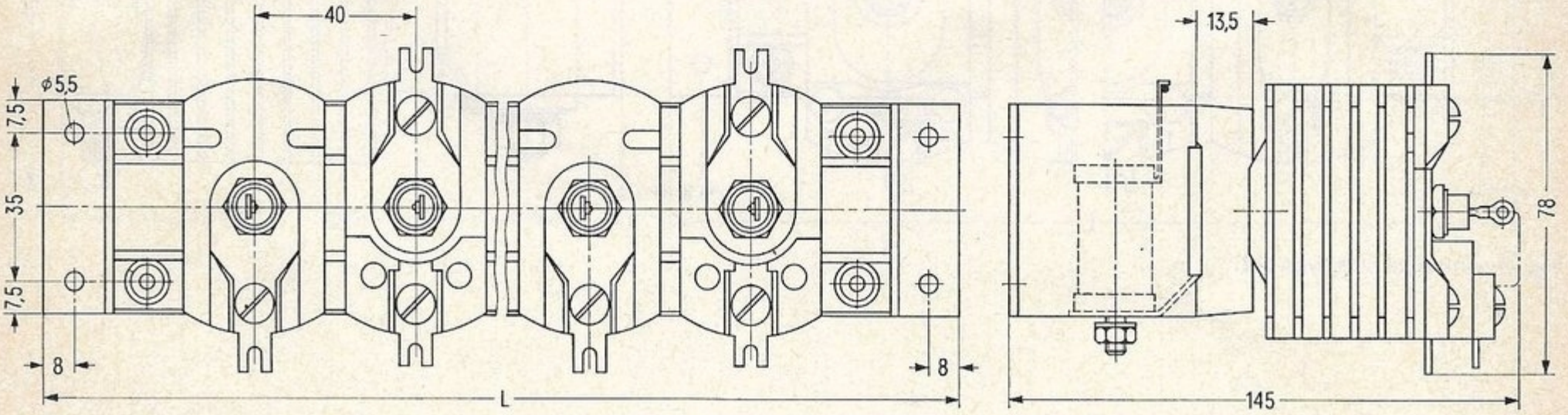


Fig. 5 with heat sink type **EK**

Assemblies on insulator strip
with **stud mounted diodes**

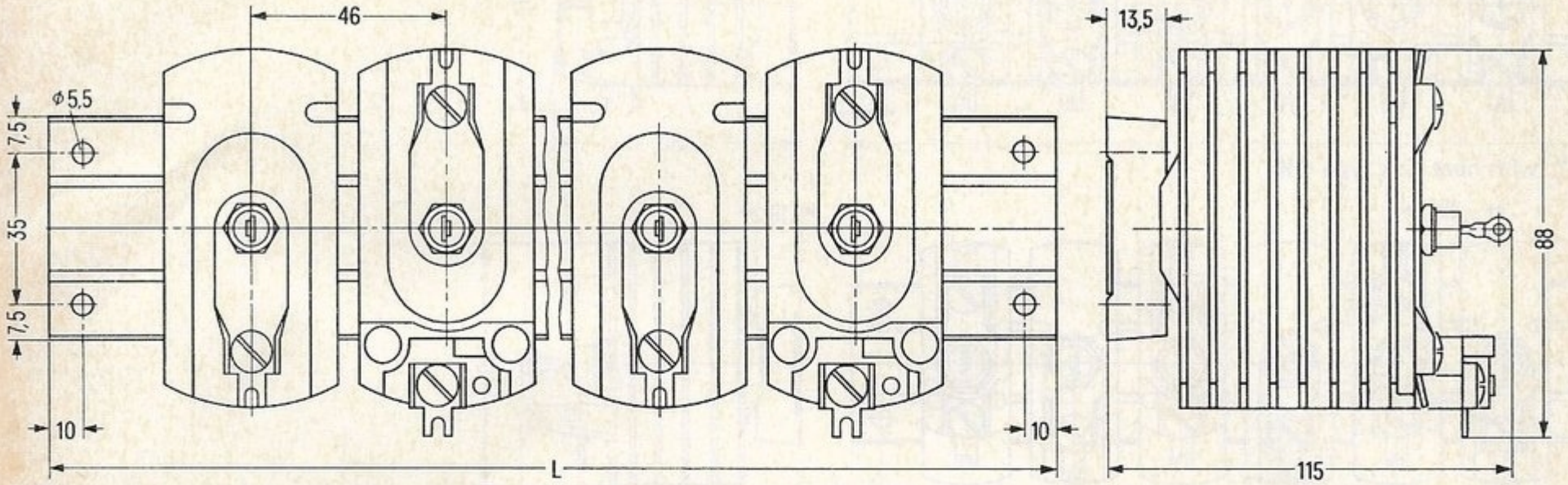


Fig. 6 with heat sink type **FK**

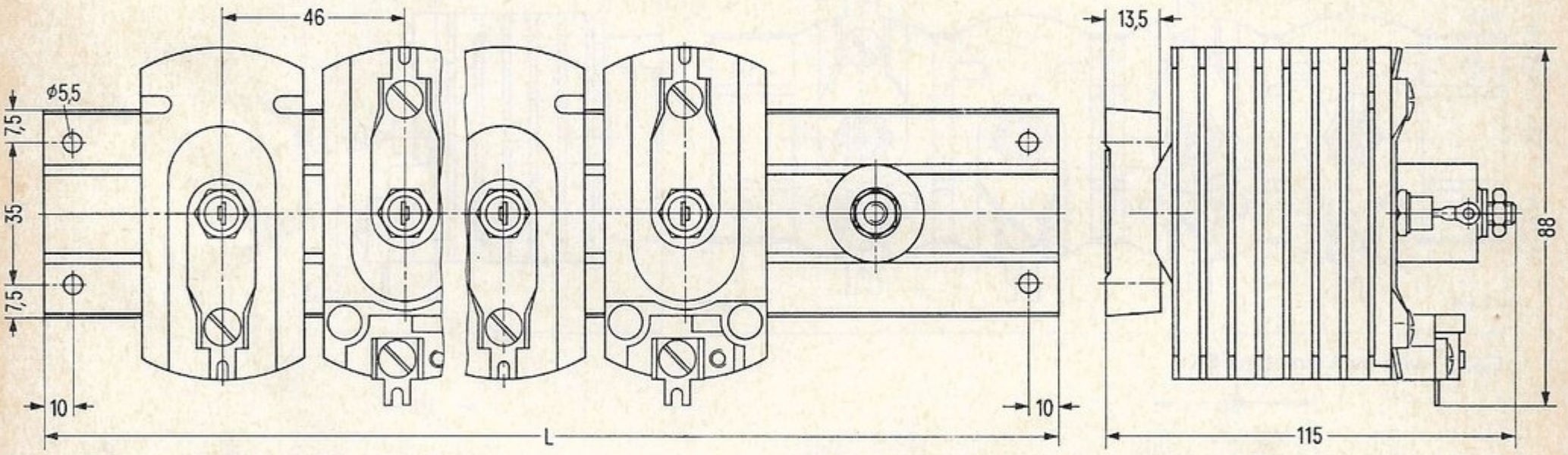


Fig. 7 with heat sink type **FK**

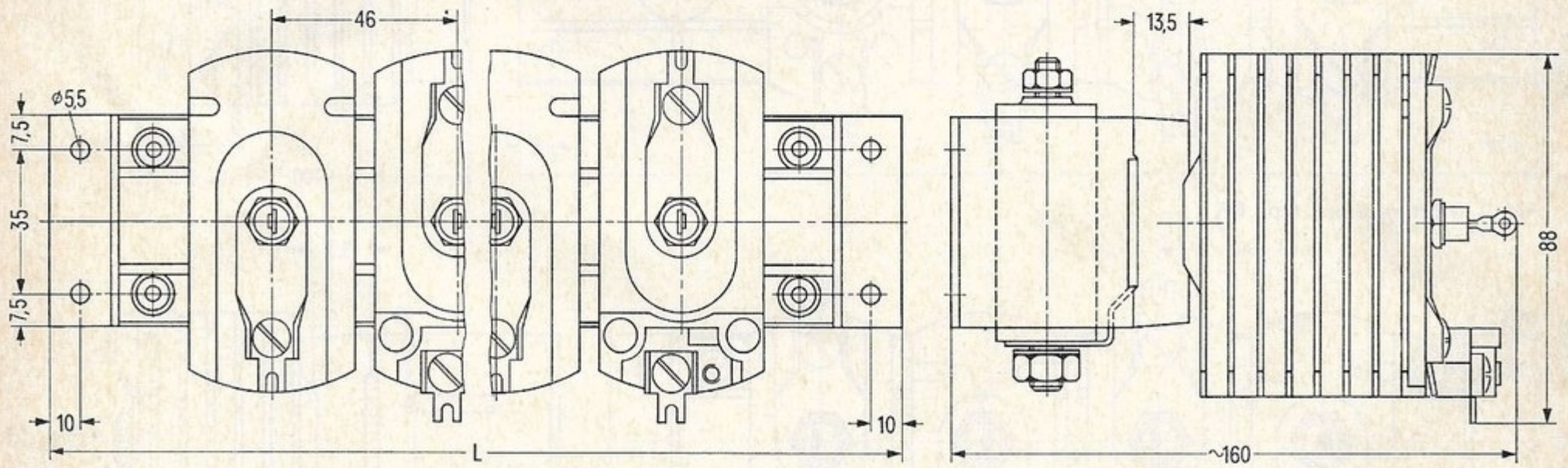


Fig. 8 with heat sink type **FK**

Assemblies on insulator strip with **stud mounted diodes**

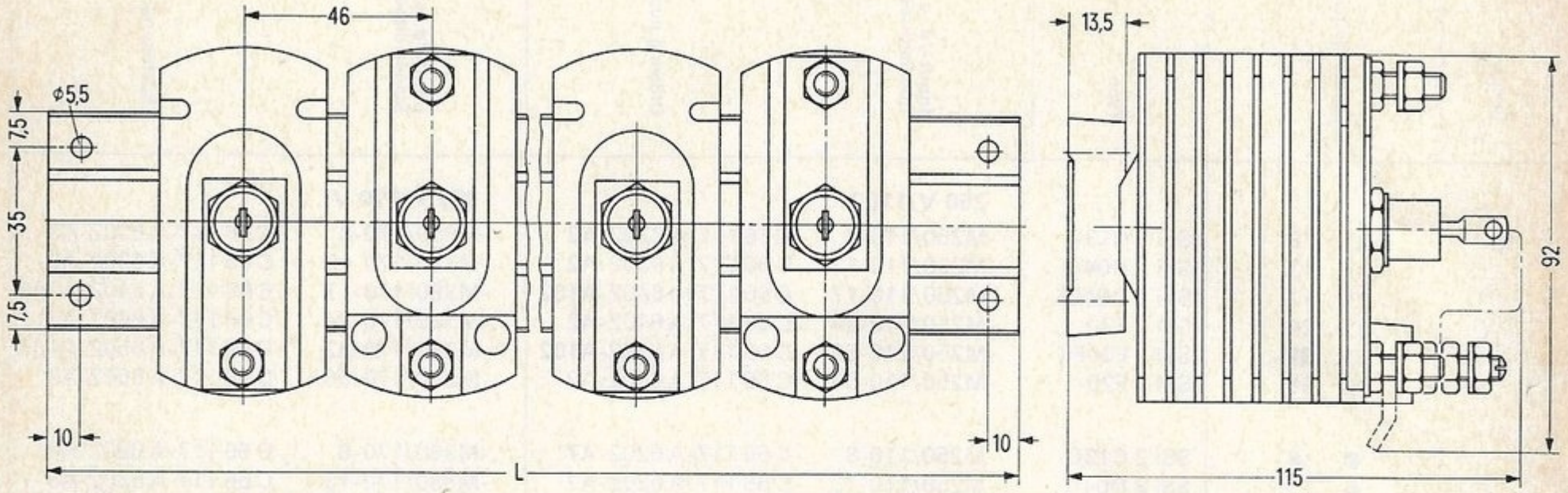


Fig. 9 with heat sink type **FK**

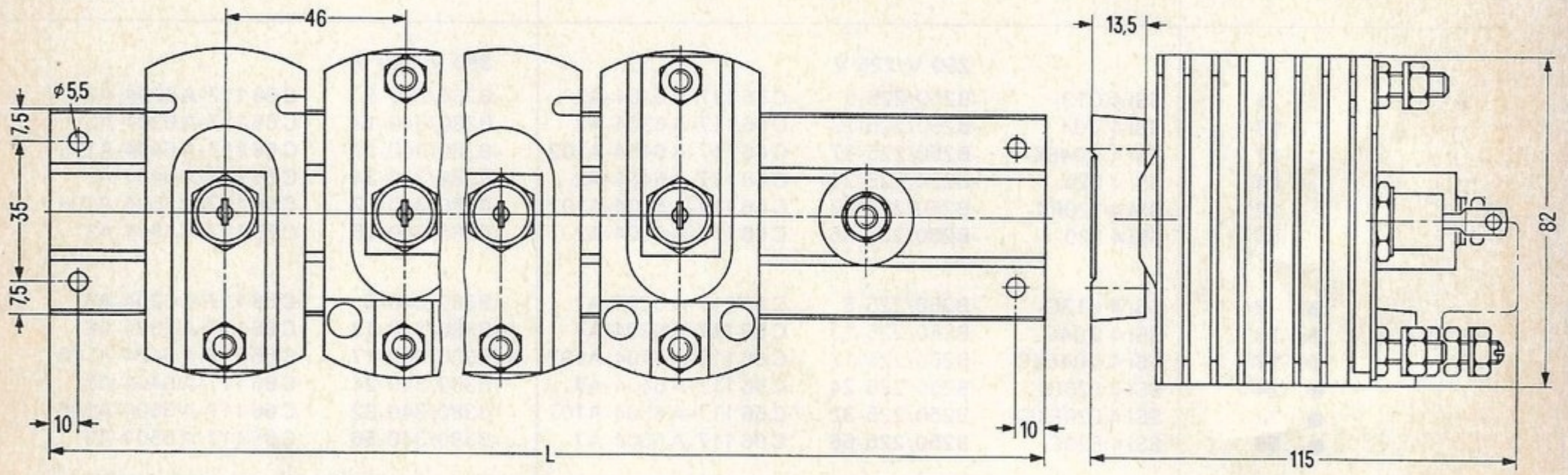


Fig. 10 with heat sink type **FK**

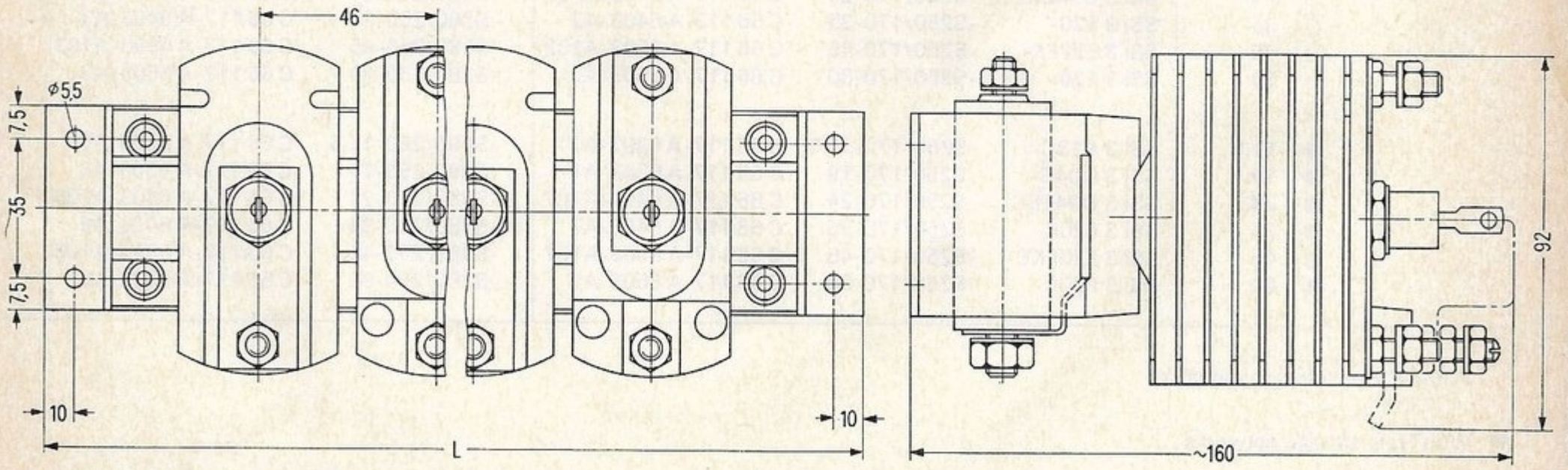


Fig. 11 with heat sink type **FK**

Assemblies on insulator strip

Circuit	Maximum d. c. current + 45° C Natural air cooling A	Type	Input-/d. c. voltage Standardized designation	Ordering number	Input-/d. c. voltage Standardized designation	Ordering number
			250 V/110 V		**380 V/170 V**	
M	○ **8**	SSi 2 C13-	-M250/110-8	C 66 117-A 6202-A2	-M380/170-8	C 66 117-A 6202-A3
	○ **13**	SSi 2 D04-	-M250/110-13	C 66 117-A 6302-A2	-M380/170-13	C 66 117-A 6302-A3
	○ **17**	SSi 2 D04EK-	-M250/110-17	C 66 117-A 6402-A102	-M380/170-17	C 66 117-A 6402-A103
	○ **24**	SSi 2 E20-	-M250/110-24	C 66 117-A 6402-A2	-M380/170-24	C 66 117-A 6402-A3
	○ **32**	SSi 2 E20FK-	-M250/110-32	C 66 117-A 6502-A102	-M380/170-32	C 66 117-A 6502-A103
	○ **56**	SSi 2 F20-	-M250/110-56	C 66 117-A 6502-A2	-M380/170-56	C 66 117-A 6502-A3
	● **8**	SSi 2 C13C-	-M250/110-8	C 66 117-A 6202-A7	-M380/170-8	C 66 117-A 6202-A8
	● **13**	SSi 2 D04C-	-M250/110-13	C 66 117-A 6302-A7	-M380/170-13	C 66 117-A 6302-A8
	● **17**	SSi 2 D04EKC-	-M250/110-17	C 66 117-A 6402-A107	-M380/170-17	C 66 117-A 6402-A108
	● **24**	SSi 2 E20C-	-M250/110-24	C 66 117-A 6402-A7	-M380/170-24	C 66 117-A 6402-A8
	● **32**	SSi 2 E20FKC-	-M250/110-32	C 66 117-A 6502-A107	-M380/170-32	C 66 117-A 6502-A108
	● **56**	SSi 2 F20C-	-M250/110-56	C 66 117-A 6502-A7	-M380/170-56	C 66 117-A 6502-A8
			250 V/225 V		**380 V/340 V**	
B	○ **8**	SSi 4 C13-	-B250/225-8	C 66 117-A 6204-A2	-B380/340-8	C 66 117-A 6204-A3
	○ **13**	SSi 4 D04	-B250/225-13	C 66 117-A 6304-A2	-B380/340-13	C 66 117-A 6304-A3
	○ **17**	SSi 4 D04EK-	-B250/225-17	C 66 117-A 6404-A102	-B380/340-17	C 66 117-A 6404-A103
	○ **24**	SSi 4 E20-	-B250/225-24	C 66 117-A 6404-A2	-B380/340-24	C 66 117-A 6404-A3
	○ **32**	SSi 4 E20FK-	-B250/225-32	C 66 117-A 6504-A102	-B380/340-32	C 66 117-A 6504-A103
	○ **56**	SSi 4 F20-	-B250/225-56	C 66 117-A 6504-A2	-B380/340-56	C 66 117-A 6504-A3
	● **8**	SSi 4 C13C-	-B250/225-8	C 66 117-A 6204-A7	-B380/340-8	C 66 117-A 6204-A8
	● **13**	SSi 4 D04C-	-B250/225-13	C 66 117-A 6304-A7	-B380/340-13	C 66 117-A 6304-A8
	● **17**	SSi 4 D04EKC-	-B250/225-17	C 66 117-A 6404-A107	-B380/340-17	C 66 117-A 6404-A108
	● **24**	SSi 4 E20C-	-B250/225-24	C 66 117-A 6404-A7	-B380/340-24	C 66 117-A 6404-A8
	● **32**	SSi 4 E20FKC-	-B250/225-32	C 66 117-A 6504-A107	-B380/340-32	C 66 117-A 6504-A108
	● **56**	SSi 4 F20C-	-B250/225-56	C 66 117-A 6504-A7	-B380/340-56	C 66 117-A 6504-A8
			250 V/170 V		**380 V/250 V**	
S	○ **11,5**	SSi 3 C13-	-S250/170-11,5	C 66 117-A 6203-A2	-S380/250-11,5	C 66 117-A 6203-A3
	○ **19**	SSi 3 D04-	-S250/170-19	C 66 117-A 6303-A2	-S380/250-19	C 66 117-A 6303-A3
	○ **24**	SSi 3 D04EK-	-S250/170-24	C 66 117-A 6403-A102	-S380/250-24	C 66 117-A 6403-A103
	○ **35**	SSi 3 E20-	-S250/170-35	C 66 117-A 6403-A2	-S380/250-35	C 66 117-A 6403-A3
	○ **45**	SSi 3 E20FK-	-S250/170-45	C 66 117-A 6503-A102	-S380/250-45	C 66 117-A 6503-A103
	○ **80**	SSi 3 F20-	-S250/170-80	C 66 117-A 6503-A2	-S380/250-80	C 66 117-A 6503-A3
	● **11,5**	SSi 3 C13C-	-S250/170-11,5	C 66 117-A 6203-A7	-S380/250-11,5	C 66 117-A 6203-A8
	● **19**	SSi 3 D04C-	-S250/170-19	C 66 117-A 6303-A7	-S380/250-19	C 66 117-A 6303-A8
	● **24**	SSi 3 D04EKC-	-S250/170-24	C 66 117-A 6403-A107	-S380/250-24	C 66 117-A 6403-A108
	● **35**	SSi 3 E20C-	-S250/170-35	C 66 117-A 6403-A7	-S380/250-35	C 66 117-A 6403-A8
	● **45**	SSi 3 E20FKC-	-S250/170-45	C 66 117-A 6503-A107	-S380/250-45	C 66 117-A 6503-A108
	● **80**	SSi 3 F20C-	-S250/170-80	C 66.117-A 6503-A7	-S380/250-80	C 66 117-A 6503-A8

○ Without Hole storage networks

● With Hole storage networks

Available on request: Assemblies on insulator strip supplied with avalanche diodes

Input-/d. c. voltage Standardized designation	Ordering number	Input-/d. c. voltage Standardized designation	Ordering number	Net weight kg	Page/figure	Mounting dimensions L mm
500 V/225 V		**650 V/290 V**				
-M500/225-8	C 66 117-A 6202-A4			0,12	147/1	78
-M500/225-13	C 66 117-A 6302-A4	-M650/290-13	C 66 117-A 6302-A5	0,17	147/2	78
-M500/225-17	C 66 117-A 6402-A104	-M650/290-17	C 66 117-A 6302-A105	0,37	147/3	116
-M500/225-24	C 66 117-A 6402-A4			0,37	147/3	116
-M500/225-32	C 66 117-A 6502-A104			0,65	148/6	138
-M500/225-56	C 66 117-A 6502-A4			0,70	149/9	138
-M500/200-8	C 66 117-A 6202-A9			0,13	147/1	78
-M500/200-13	C 66 117-A 6302-A9			0,17	147/2	78
-M500/225-17	C 66 117-A 6402-A109			0,57	147/3	116
-M500/225-24	C 66 117-A 6402-A9			0,57	147/5	116
-M500/225-32	C 66 117-A 6502-A109			0,85	148/8	210
-M500/225-56	C 66 117-A 6502-A9			0,90	149/11	210
500 V/450 V		**650 V/580 V**				
-B500/450-8	C 66 117-A 6204-A4			0,22	147/1	128
-B500/450-13	C 66 117-A 6304-A4	-B650/580-13	C 66 117-A 6304-A5	0,32	147/2	128
-B500/450-17	C 66 117-A 6404-A104	-B650/580-17	C 66 117-A 6404-A105	0,71	147/3	196
-B500/450-24	C 66 117-A 6404-A4			0,71	147/3	196
-B500/450-32	C 66 117-A 6504-A104			1,25	148/6	230
-B500/450-56	C 66 117-A 6504-A4			1,30	149/9	230
-B500/450-8	C 66 117-A 6204-A9			0,23	147/1	128
-B500/450-13	C 66 117-A 6304-A9			0,32	147/2	128
-B500/450-17	C 66 117-A 6404-A109			0,81	147/3	196
-B500/450-24	C 66 117-A 6404-A9			0,81	147/4	236
-B500/450-32	C 66 117-A 6504-A109			1,35	148/7	276
-B500/450-56	C 66 117-A 6504-A9			1,40	149/10	276
500 V/340 V		**650 V/430 V**				
-S500/340-11,5	C 66 117-A 6203-A4			0,17	147/1	103
-S500/340-19	C 66 117-A 6303-A4	-S650/430-19	C 66 117-A 6303-A5	0,25	147/2	103
-S500/340-24	C 66 117-A 6403-A104	-S650/430-24	C 66 117-A 6403-A105	0,54	147/3	156
-S500/340-35	C 66 117-A 6403-A4			0,54	147/3	156
-S500/340-45	C 66 117-A 6503-A104			0,95	148/6	184
-S500/340-80	C 66 117-A 6503-A4			1,00	149/9	184
-S500/340-11,5	C 66 117-A 6203-A9			0,18	147/1	103
-S500/340-19	C 66 117-A 6303-A9			0,25	147/2	103
-S500/340-24	C 66 117-A 6403-A109			0,80	147/3	156
-S500/340-35	C 66 117-A 6403-A9			0,80	147/5	190
-S500/340-45	C 66 117-A 6503-A109			1,15	148/8	214
-S500/340-80	C 66 117-A 6503-A9			1,20	149/11	214

Available on request: Assemblies on insulator strip with diodes SSi F 20. .
and SSi G 02. . on heatsinks GK

Assemblies on insulator strip

Circuit		Maximum d. c. current Natural air cooling + 45° C A	Type	Input-/d. c. voltage Standardized designation	Ordering number	Input-/d. c. voltage Standardized designation	Ordering number
				250 V/330 V		**380 V/500 V**	
DB	○	**11,5**	SSi 6 C13-	-DB250/330-11,5	C 66 117-A 6206-A2	-DB380/500-11,5	C 66 117-A 6206-A3
	○	**19**	SSi 6 D04-	-DB250/330-19	C 66 117-A 6306-A2	-DB380/500-19	C 66 117-A 6306-A3
	○	**24**	SSi 6 D04EK-	-DB250/330-24	C 66 117-A 6406-A102	-DB380/500-24	C 66 117-A 6406-A103
	○	**35**	SSi 6 E20-	-DB250/330-35	C 66 117-A 6406-A2	-DB380/500-35	C 66 117-A 6406-A3
	○	**45**	SSi 6 E20FK-	-DB250/330-45	C 66 117-A 6506-A102	-DB380/500-45	C 66 117-A 6506-A103
	○	**80**	SSi 6 F20-	-DB250/330-80	C 66 117-A 6506-A2	-DB380/500-80	C 66 117-A 6506-A3
	●	**11,5**	SSi 6 C13C-	-DB250/330-11,5	C 66 117-A 6206-A7	-DB380/500-11,5	C 66 117-A 6206-A8
	●	**19**	SSi 6 D04C-	-DB250/330-19	C 66 117-A 6306-A7	-DB380/500-19	C 66 117-A 6306-A8
	●	**24**	SSi 6 D04EKC-	-DB250/330-24	C 66 117-A 6406-A107	-DB380/500-24	C 66 117-A 6406-A108
	●	**35**	SSi 6 E20C-	-DB250/330-35	C 66 117-A 6406-A7	-DB380/500-35	C 66 117-A 6406-A8
	●	**45**	SSi 6 E20FKC-	-DB250/330-45	C 66 117-A 6506-A107	-DB380/500-45	C 66 117-A 6506-A108
	●	**80**	SSi 6 F20C-	-DB250/330-80	C 66 117-A 6506-A7	-DB380/500-80	C 66 117-A 6506-A8
						380 V/500 V	
oDB	○	**11,5**	SSi 6 C13-			-oDB380/500-11,5	C 66 117-A 6206-A13
	○	**19**	SSi 6 D04-			-oDB380/500-19	C 66 117-A 6306-A13
	○	**24**	SSi 6 D04EK-			-oDB380/500-24	C 66 117-A 6406-A113
	○	**35**	SSi 6 E20-			-oDB380/500-35	C 66 117-A 6406-A13
	○	**45**	SSi 6 E20FK-			-oDB380/500-45	C 66 117-A 6506-A113
	○	**80**	SSi 6 F20-			-oDB380/500-80	C 66 117-A 6506-A13
	●	**11,5**	SSi 6 C13C-			-oDB380/500-11,5	C 66 117-A 6206-A18
	●	**19**	SSi 6 D04C-			-oDB380/500-19	C 66 117-A 6306-A18
	●	**24**	SSi 6 D04EKC-			-oDB380/500-24	C 66 117-A 6406-A118
	●	**35**	SSi 6 E20C-			-oDB380/500-35	C 66 117-A 6406-A18
	●	**45**	SSi 6 E20FKC-			-oDB380/500-45	C 66 117-A 6506-A118
	●	**80**	SSi 6 F20C-			-oDB380/500-80	C 66 117-A 6506-A18
						380 V/500 V	
oDB+E	○	**11,5**	SSi 7 C13-			-oDB380/500-11,5+E	C 66 117-A 6207-A3
	○	**19**	SSi 7 D04-			-oDB380/500-19+E	C 66 117-A 6307-A3
	○	**24**	SSi 7 D04EK-			-oDB380/500-24+E	C 66 117-A 6407-A103
	○	**35**	SSi 7 E20-			-oDB380/500-35+E	C 66 117-A 6407-A3
	○	**45**	SSi 7 E20FK-			-oDB380/500-45+E	C 66 117-A 6507-A103
	○	**80**	SSi 7 F20-			-oDB380/500-80+E	C 66 117-A 6507-A3
	●	**11,5**	SSi 7 C13C-			-oDB380/500-11,5+E	C 66 117-A 6207-A8
	●	**19**	SSi 7 D04C-			-oDB380/500-19+E	C 66 117-A 6307-A8
	●	**24**	SSi 7 D04EKC-			-oDB380/500-24+E	C 66 117-A 6407-A108
	●	**35**	SSi 7 E20C-			-oDB380/500-35+E	C 66 117-A 6407-A8
	●	**45**	SSi 7 E20FKC-			-oDB380/500-45+E	C 66 117-A 6507-A108
	●	**80**	SSi 7 F20C-			-oDB380/500-80+E	C 66 117-A 6507-A8

○ Without Hole storage networks

● With Hole storage networks

Available on request: Assemblies on insulator strip supplied with avalanche diodes

Input-/d. c. voltage Standardized designation	Ordering number	Input-/d. c. voltage Standardized designation	Ordering number	Net weight kg	Page/figure	Mounting dimensions L mm
500 V/670 V		**650 V/870 V**				
-DB500/670-11,5	C 66 117-A 6206-A4			0,32	147/1	178
-DB500/670-19	C 66 117-A 6306-A4	-DB650/870-19	C 66 117-A 6306-A5	0,47	147/2	178
-DB500/670-24	C 66 117-A 6406-A104	-DB650/870-24	C 66 117-A 6406-A105	1,00	147/3	276
-DB500/670-35	C 66 117-A 6406-A4			1,00	147/3	276
-DB500/670-45	C 66 117-A 6506-A104			1,85	148/6	322
-DB500/670-80	C 66 117-A 6506-A4			1,90	149/9	322
-DB500/670-11,5	C 66 117-A 6206-A9			0,33	147/1	178
-DB500/670-19	C 66 117-A 6306-A9			0,47	147/2	178
-DB500/670-24	C 66 117-A 6406-A109			1,15	147/3	316
-DB500/670-35	C 66 117-A 6406-A9			1,15	147/4	316
-DB500/670-45	C 66 117-A 6506-A109			1,95	148/7	368
-DB500/670-80	C 66 117-A 6506-A9			2,00	149/10	368
500 V/670 V		**650 V/870 V**				
-oDB500/670-11,5	C 66 117-A 6206-A14			0,32	147/1	178
-oDB500/670-19	C 66 117-A 6306-A14	-oDB650/870-19	C 66 117-A 6306-A15	0,47	147/2	178
-oDB500/670-24	C 66 117-A 6406-A114	-oDB650/870-24	C 66 117-A 6406-A115	1,00	147/3	276
-oDB500/670-35	C 66 117-A 6406-A14			1,00	147/3	276
-oDB500/670-45	C 66 117-A 6506-A114			1,85	148/6	322
-oDB500/670-80	C 66 117-A 6506-A14			1,90	149/9	322
-oDB500/670-11,5	C 66 117-A 6206-A19			0,33	147/1	178
-oDB500/670-19	C 66 117-A 6306-A19			0,47	147/2	178
-oDB500/670-24	C 66 117-A 6406-A119			1,15	147/3	276
-oDB500/670-35	C 66 117-A 6406-A19			1,15	147/5	310
-oDB500/670-45	C 66 117-A 6506-A119			1,95	148/8	352
-oDB500/670-80	C 66 117-A 6506-A19			2,00	149/11	352
500 V/670 V		**650 V/870 V**				
-oDB500/670-11,5+E	C 66 117-A 6207-A4			0,37	147/1	203
-oDB500/670-19+E	C 66 117-A 6307-A4	-oDB650/870-19+E	C 66 117-A 6307-A5	0,55	147/2	203
-oDB500/670-24+E	C 66 117-A 6407-A104	-oDB650/870-24+E	C 66 117-A 6407-A105	1,22	147/3	316
-oDB500/670-35+E	C 66 117-A 6407-A4			1,22	147/3	316
-oDB500/670-45+E	C 66 117-A 6507-A104			2,15	148/6	362
-oDB500/670-80+E	C 66 117-A 6507-A4				149/9	362
-oDB500/670-11,5+E	C 66 117-A 6207-A9			0,38	147/1	203
-oDB500/670-19+E	C 66 117-A 6307-A9			0,55	147/2	203
-oDB500/670-24+E	C 66 117-A 6407-A109			1,72	147/3	316
-oDB500/670-35+E	C 66 117-A 6407-A9			1,72	147/5	350
-oDB500/670-45+E	C 66 117-A 6507-A109			2,55	148/8	398
-oDB500/670-80+E	C 66 117-A 6507-A9			2,60	149/11	398

Available on request: Assemblies on insulator strip with diodes SSi F 20. . and SSi G 02. .
on heatsinks GK

Assemblies in frames with **stud mounted diodes**

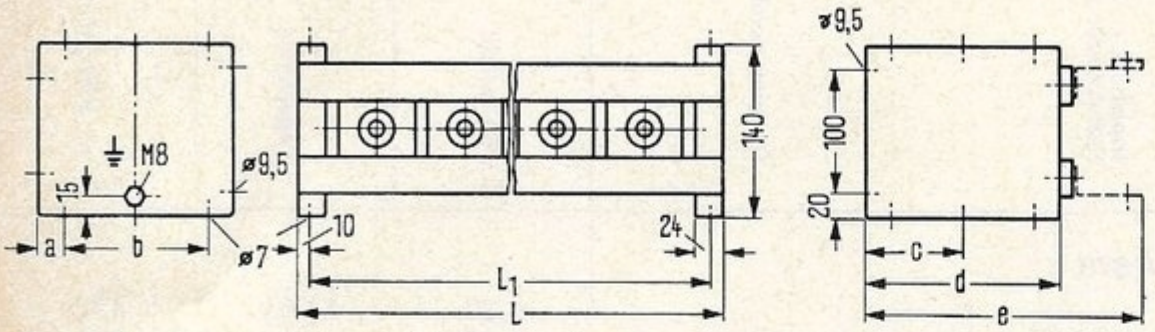


Fig. 1 Frame assembly with HK heat sinks for natural air cooling

without Hole storage networks	a = 20 b = 90 c = 65 d = 130 e = 200
with Hole storage networks	a = 22,5 b = 120 c = 82,5 d = 165 e = 235

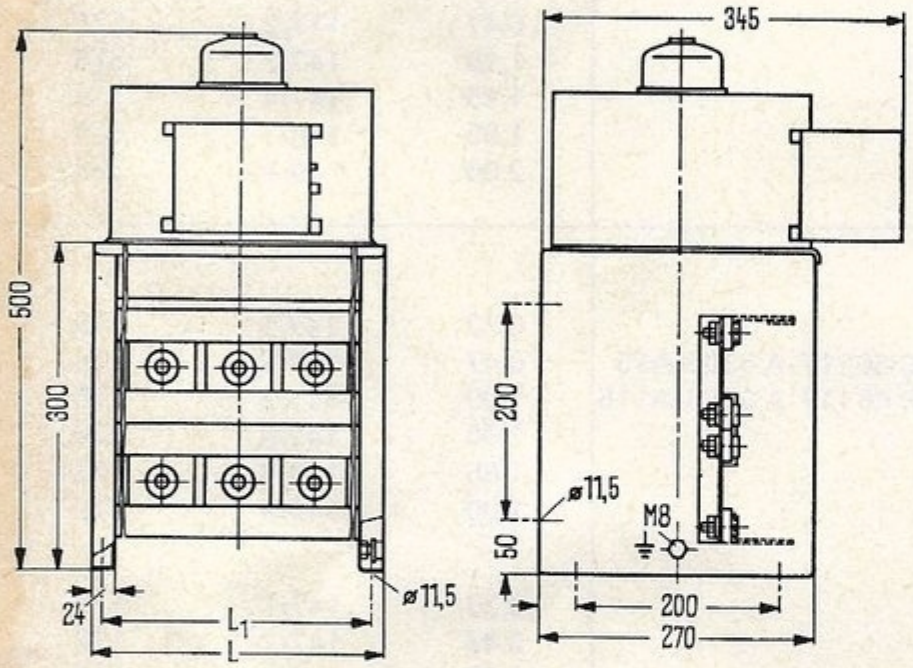


Fig. 2 Frame assembly with HK heat sinks with built-on ventilator

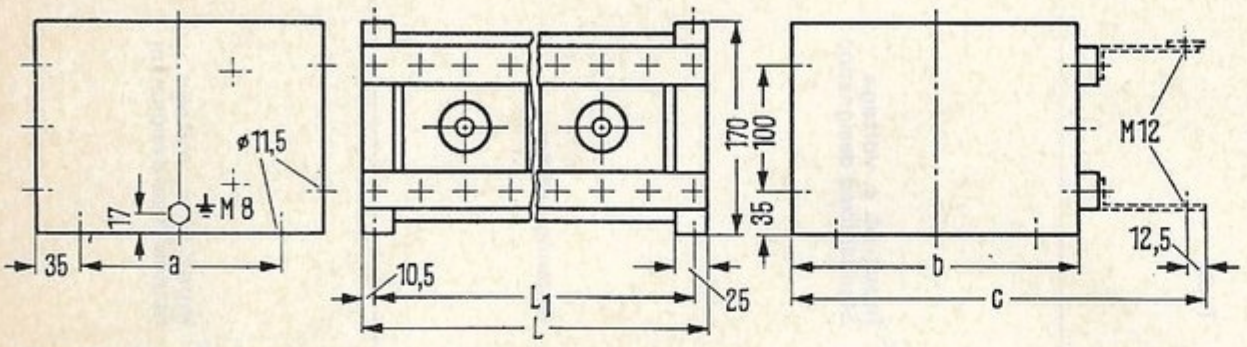


Fig. 3 Frame assembly with LK heat sinks for natural air cooling

○ without Hole storage networks

a = 100
b = 170
c = 270

● with Hole storage networks

a = 160
b = 230
c = 330

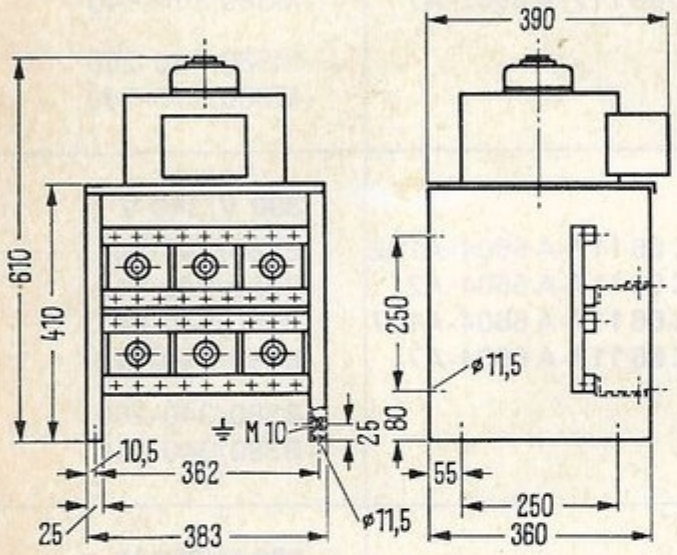


Fig. 4 Frame assembly with LK heat sinks, 6 diodes and built-on ventilator

● with Hole storage networks

⋈ complete with ventilator

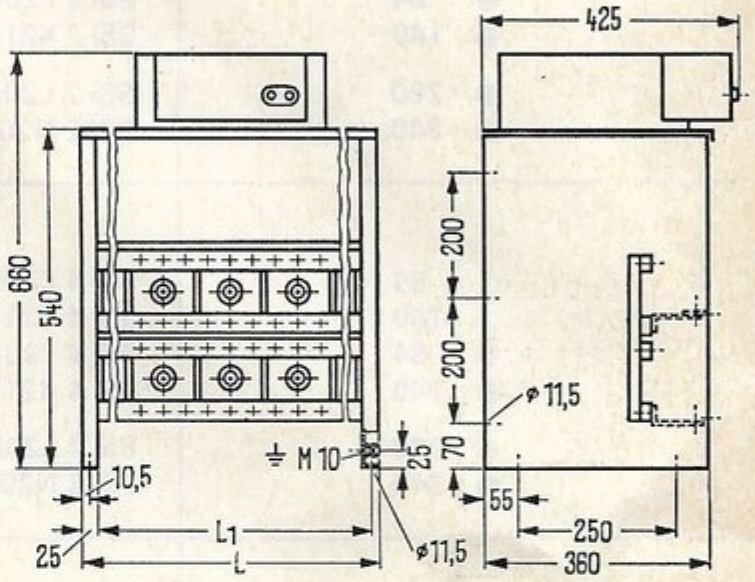


Fig. 5 Frame assembly with LK heat sinks and more than 6 diodes, and built-on ventilator

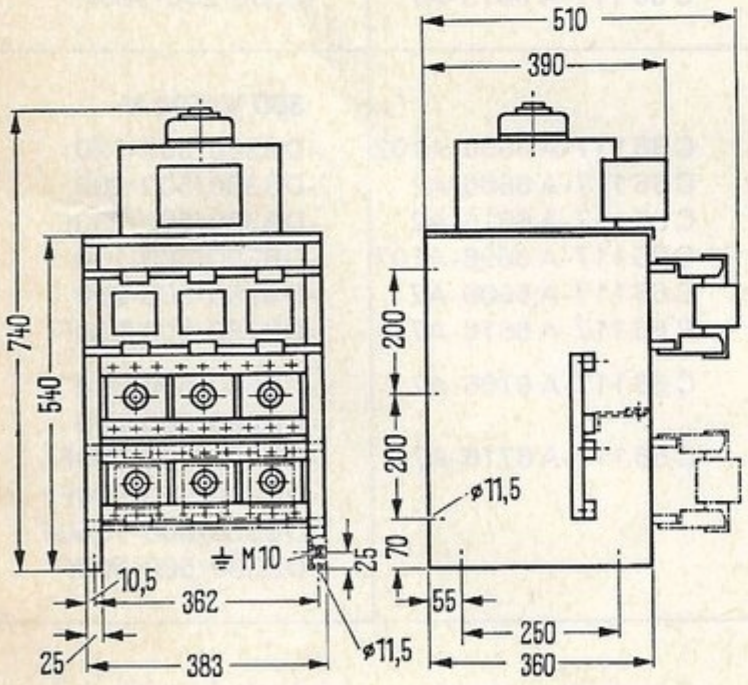


Fig. 6 Frame assembly with LK heat sinks, 6 diodes, built-on ventilator and fuses

●● with fuses and hole storage networks

⋈ complete with ventilator

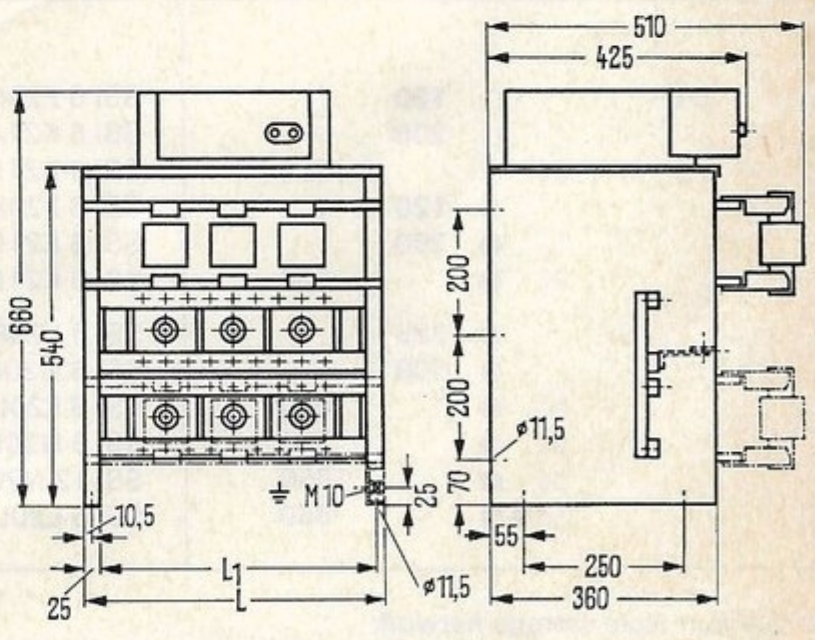


Fig. 7 Frame assembly with LK heat sinks, more than 6 diodes, built-on ventilator and fuses

Assemblies in frames

Circuit	Maximum d. c. current: Natural air cooling + 45° C A	Maximum d. c. current: Forced-air-cooling 6 m/sec + 35° C A	Type	Input-/d. c. voltage Standardized designation V	Ordering number	Input-/d. c. voltage Standardized designation V
				250 V/110 V		**380 V/170 V**
M	○ **84**		SSi 2 F20HK-	-M250/110-84	C 66 117-A 6602-A102	-M380/170-84
	○ **140**		SSi 2 K21-	-M250/110-140	C 66 117-A 6602-A2	-M380/170-140
	● **84**		SSi 2 F20HKC-	-M250/110-84	C 66 117-A 6602-A107	-M380/170-84
	● **140**		SSi 2 K21C-	-M250/110-140	C 66 117-A 6602-A7	-M380/170-140
	● **260**		SSi 2 L20RC-			-M380/170-260
	● **340**		SSi 2 N20LKRC-			-M380/170-340
				250 V/225 V		**380 V/340 V**
B	○ **84**		SSi 4 F20HK-	-B250/225-84	C 66 117-A 6604-A102	-B380/340-84
	○ **140**		SSi 4 K21-	-B250/225-140	C 66 117-A 6604-A2	-B380/340-140
	● **84**		SSi 4 F20HKC-	-B250/225-84	C 66 117-A 6604-A107	-B380/340-84
	● **140**		SSi 4 K21C-	-B250/225-140	C 66 117-A 6604-A7	-B380/340-140
	● **260**		SSi 4 L20RC-			-B380/340-260
	● **340**		SSi 4 N20LKRC-			-B380/340-340
				250 V/170 V		**380 V/250 V**
S	○ **120**		SSi 3 F20HK-	-S250/170-120	C 66 117-A 6603-A102	-S380/250-120
	○ **200**		SSi 3 K21-	-S250/170-200	C 66 117-A 6603-A2	-S380/250-200
	⋈ ○	**380**	SSi 3 K21L-	-S250/170-380F	C 66 117-A 6613-A2	-S380/250-380F
	● **120**		SSi 3 F20HKC-	-S250/170-120	C 66 117-A 6603-A107	-S380/250-120
	● **200**		SSi 3 K21C-	-S250/170-200	C 66 117-A 6603-A7	-S380/250-200
	⋈ ●	**380**	SSi 3 K21LC-	-S250/170-380F	C 66 117-A 6613-A7	-S380/250-380F
				250 V/330 V		**380 V/500 V**
DB	○ **120**		SSi 6 F20HK-	-DB250/330-120	C 66 117-A 6606-A102	-DB380/500-120
	○ **200**		SSi 6 K21-	-DB250/330-200	C 66 117-A 6606-A2	-DB380/500-200
	⋈ ○	**380**	SSi 6 K21L-	-DB250/330-380F	C 66 117-A 6616-A2	-DB380/500-380F
	● **120**		SSi 6 F20HKC-	-DB250/330-120	C 66 117-A 6606-A107	-DB380/500-120
	● **200**		SSi 6 K21C-	-DB250/330-200	C 66 117-A 6606-A7	-DB380/500-200
	⋈ ●	**380**	SSi 6 K21LC-	-DB250/330-380F	C 66 117-A 6616-A7	-DB380/500-380F
	● **380**		SSi 6 L20RC-	-DB250/330-380	C 66 117-A 6706-A7	-DB380/500-380
	● **500**		SSi 6 N20LKRC-			-DB380/500-500
	⋈ ●	**680**	SSi 6 L20LRC-	-DB250/330-680F	C 66 117-A 6716-A7	-DB380/500-680F
	⋈ ●	**960**	SSi 6 N20LKLRC-			-DB380/500-960F
	⋈ ●	**1550**	SSi 12 N20LKLRC-			-DB380/500-1550F
	⋈●●	**660**	SSi 6 L20LRCS-			-DB380/500-660F

○ Without Hole storage network

● With Hole storage network

●● With fuses and Hole storage network

⋈ complete with ventilator

Ordering number	Input-/d. c. voltage V Standardized designation	Ordering number	Input-/d. c. voltage V Standardized designation	Ordering number	Net weigth kg	Page/figure	Mounting dimensions L mm
	500 V/225 V						
C 66 117-A 6602-A103	-M500/225-84	C 66 117-A 6602-A104			2,5	154/1	210
C 66 117-A 6602-A3	-M500/225-140	C 66 117-A 6602-A4			3,0	154/1	210
C 66 117-A 6602-A108	-M500/225-84	C 66 117-A 6602-A109			2,52	154/1	210
C 66 117-A 6602-A8	-M500/225-140	C 66 117-A 6602-A9			4,0	154/1	210
C 66 117-A 6702-A8					8,0	155/3	275
C 66 117-A 6702-A108					8,0	155/3	275
	500 V/450 V						
C 66 117-A 6604-A103	-B500/450-84	C 66 117-A 6604-A104			5,0	154/1	360
C 66 117-A 6604-A3	-B500/450-140	C 66 117-A 6604-A4			6,0	154/1	360
C 66 117-A 6604-A108	-B500/450-84	C 66 117-A 6604-A109			5,0	154/2	360
C 66 117-A 6604-A8	-B500/450-140	C 66 117-A 6604-A9			7,0	154/1	360
C 66 117-A 6704-A8					15,0	155/3	491
C 66 117-A 6704-A108					15,0	155/3	491
	500 V/340 V						
C 66 117-A 6603-A103	-S500/340-120	C 66 117-A 6603-A104			3,3	154/1	285
C 66 117-A 6603-A3	-S500/340-200	C 66 117-A 6603-A4			4,0	154/1	285
C 66 117-A 6613-A3	-S500/340-380F	C 66 117-A 6613-A4			15,0	154/1	285
C 66 117-A 6603-A108	-S500/340-120	C 66 117-A 6603-A109			5,5	154/1	285
C 66 117-A 6603-A8	-S500/340-200	C 66 117-A 6603-A9			5,5	154/1	285
C 66 117-A 6613-A8	-S500/340-380F	C 66 117-A 6613-A9			16,0	154/2	285
	500 V/670 V		**650 V/870 V**	C 66 117-			
C 66 117-A 6606-A103	-DB500/670-120	C 66 117-A 6606-A104			6,6	154/1	510
C 66 117-A 6606-A3	-DB500/670-200	C 66 117-A 6606-A4			8,0	154/1	510
C 66 117-A 6616-A3	-DB500/670-380F	C 66 117-A 6616-A4			19,0	154/2	285
C 66 117-A 6606-A108	-DB500/670-120	C 66 117-A 6606-A109			6,65	154/1	510
C 66 117-A 6606-A8	-DB500/670-200	C 66 117-A 6606-A9			10,0	154/1	510
C 66 117-A 6616-A8	-DB500/670-380F	C 66 117-A 6616-A9			20,0	154/2	285
C 66 117-A 6706-A8	-DB500/670-380	C 66 117-A 6706-A9	-DB650/870-380	-A 6706-A10	21,0	155/3	707
C 66 117-A 6706-A108	-DB500/670-500	C 66 117-A 6706-A109	-DB650/870-500	-A 6706-A110	22,0	155/3	707
C 66 117-A 6716-A8	-DB500/670-680F	C 66 117-A 6716-A9	-DB650/870-680F	-A 6716-A10	30,0	155/4	—
C 66 117-A 6716-A108	-DB500/670-960F	C 66 117-A 6716-A109	-DB650/870-960F	-A 6716-A110	31,0	155/4	—
C 66 117-A 6712-A108	-DB500/670-1530F	C 66 117-A 6712-A109	-DB650/870-1550F	-A 6712-A110	69,0	155/5	707
C 66 117-A 6726-A8	-DB500/670-660F	C 66 117-A 6726-A9	-DB650/870-660F	-A 6726-A10	39,0	155/6	—

Assemblies in frames

Circuit	Maximum d. c. current: Natural air cooling + 45° C A	Maximum d. c. current: Forced-air-cooling 6 m/sec + 35° C A	Type	Input-/d. c. voltage Standardized designation V	Ordering number	Input-/d. c. voltage Standardized designation V
				250 V/330 V	C 66 117-	**380 V/500 V**
oDB	○ **120**		SSi 6 F20HK-	-oDB250/330-120	-A 6606-A112	-oDB380/500-120
	○ **200**		SSi 6 K21-	-oDB250/330-200	-A 6606-A12	-oDB380/500-200
	⋈ ○	**380**	SSi 6 K21L-	-oDB250/330-380F	-A 6616-A12	-oDB380/500-380F
	● **120**		SSi 6 F20HKC-	-oDB250/330-120	-A 6606-A117	-oDB380/500-120
	● **200**		SSi 6 K21C-	-oDB250/330-200	-A 6606-A17	-oDB380/500-200
	⋈ ●	**380**	SSi 6 K21LC-	-oDB250/330-380F	-A 6616-A17	-oDB380/500-380F
	● **380**		SSi 6 L20RC-	-oDB250/330-380	-A 6706-A17	-oDB380/500-380
	● **500**		SSi 6 N20LKRC-			-oDB380/500-500
	⋈ ●	**680**	SSi 6 L20LRC-	-oDB250/330-680F	-A 6716-A17	-oDB380/500-680F
	⋈ ●	**960**	SSi 6 N20LKLRC-			-oDB380/500-960F
	⋈ ●	**1550**	SSi 12 N20LKLRC-			-oDB380/500-1550F
	⋈ ●●	**660**	SSi 6 L20LRCS-			-oDB380/500-660F
				250 V/330 V	C 66 117-	**380 V/500 V**
oDB+E	○ **120**		SSi 7 F20HK-	-oDB250/330-120+E	-A 6607-A102	-oDB380/500-120+E
	○ **200**		SSi 7 K21-	-oDB250/330-200+E	-A 6607-A2	-oDB380/500-200+E
	⋈ ○	**380**	SSi 7 K21L-	-oDB250/330-380F+E	-A 6617-A2	-oDB380/500-380F+E
	● **120**		SSi 7 F20HKC-	-oDB250/330-120+E	-A 6607-A107	-oDB380/500-120+E
	● **200**		SSi 7 K21C-	-oDB250/330-200+E	-A 6607-A7	-oDB380/500-200+E
	⋈ ●	**380**	SSi 7 K21LC-	-oDB250/330-380F+E	-A 6617-A7	-oDB380/500-380F+E
	● **380**		SSi 7 L20RC-	-oDB250/330-380+E	-A 6707-A7	-oDB380/500-380+E
	● **500**		SSi 7 N20LKRC-			-oDB380/500-500+E
	⋈ ●	**680**	SSi 7 L20LRC-	-oDB250/330-680F+E	-A 6717-A7	-oDB380/500-680F+E
	⋈ ●	**960**	SSi 7 N20LKLRC-			-oDB380/500-960F+E
	⋈ ●	**1550**	SSi 14 N20LKLRC-			-oDB380/500-1550F+2E
	⋈ ●●	**660**	SSi 7 L20LKRCS-			-oDB380/500-660F+E
				250 V/170 V	C 66 117-	**380 V/250 V**
DS	⋈ ○	**630**	SSi 6 K21L-	-DS250/170-630F	-A 6616-A22	-DS380/250-630F
	⋈ ●	**630**	SSi 6 K21LC-	-DS250/170-630F	-A 6616-A27	-DS380/250-630F
	● **640**		SSi 6 L20RC-	-DS250/170-640	-A 6706-A27	-DS380/250-640
	● **840**		SSi 6 N20LKRC-			-DS380/250-840
	⋈ ●	**1100**	SSi 6 L20LRC-	-DS250/170-1100F	-A 6716-A27	-DS380/250-1100F
	⋈ ●	**1600**	SSi 6 N20LKLRC-			-DS380/250-1600F
	⋈ ●	**2600**	SSi 12 N20LKLRC-			-DS380/250-2600F
	⋈ ●●	**930**	SSi 6 L20LRCS-			-DS380/250-930F

○ Without hole storage network

● With hole storage network

●● With fuses and hole storage network

⋈ complete with ventilator

Ordering number	Input-/d. c. voltage Standardized designation V	Ordering number	Input-/d. c. voltage Standardized designation V	Ordering number	Net weight kg	Page/figure	Mounting dimensions L mm
C 66 117-	**500 V/670 V**	C 66 117-	**650 V/870 V**	C 66 117-			
-A 6606-A113	-oDB500/670-120	-A 6606-A114			6,6	154/1	510
-A 6606-A13	-oDB500/670-200	-A 6606-A14			8,0	154/1	510
-A 6616-A13	-oDB500/670-380F	-A 6616-A14			19,0	154/2	285
-A 6606-A118	-oDB500/670-120	-A 6606-A119			6,65	154/1	510
-A 6606-A18	-oDB500/670-200	-A 6606-A19			10,0	154/1	510
-A 6616-A18	-oDB500/670-380F	-A 6616-A19			20,0	154/2	285
-A 6706-A18	-oDB500/670-380	-A 6706-A19	-oDB650/870-380	-A 6706-A20	21,0	155/3	707
-A 6706-A118	-oDB500/670-500	-A 6706-A119	-oDB650/870-500	-A 6706-A120	22,0	155/3	707
-A 6716-A18	-oDB500/670-680F	-A 6716-A19	-oDB650/870-680F	-A 6716-A20	30,0	155/4	—
-A 6716-A118	-oDB500/670-960F	-A 6716-A119	-oDB650/870-960F	-A 6716-A120	31,0	155/4	—
-A 6712-A118	-oDB500/670-1550F	-A 6712-A119	-oDB650/870-1550F	-A 6712-A120	69,0	155/5	707
-A 6726-A18	-oDB500/670-660F	-A 6726-A19	-oDB650/870-660F	-A 6726-A20	39,0	155/6	—
C 66 117-	**500 V/670 V**	C 66 117-	**650 V/870 V**	C 66 117-			
-A 6607-A103	-oDB500/670-120+E	-A 6607-A104			8,3	154/1	585
-A 6607-A3	-oDB500/670-200+E	-A 6607-A4			9,0	154/1	585
-A 6617-A3	-oDB500/670-380F+E	-A 6617-A4			21,0	154/2	360
-A 6607-A108	-oDB500/670-120+E	-A 6607-A109			8,3	154/1	585
-A 6607-A8	-oDB500/670-200+E	-A 6607-A9			11,5	154/1	585
-A 6617-A8	-oDB500/670-380F+E	-A 6617-A9			22,0	154/2	360
-A 6707-A8	-oDB500/670-380+E	-A 6707-A9	-oDB650/870-380+E	-A 6707-A10	25,0	155/3	815
-A 6707-A108	-oDB500/670-500+E	-A 6707-A109	-oDB650/870-500+E	-A 6707-A110	25,0	155/3	815
-A 6717-A8	-oDB500/670-680F+E	-A 6717-A9	-oDB650/870-680F+E	-A 6717-A10	53,0	155/5	491
-A 6717-A108	-oDB500/670-960F+E	-A 6717-A109	-oDB650/870-960F+E	-A 6717-A110	53,0	155/5	491
-A 6714-A108	-oDB500/670-1550F+2E	-A 6714-A109	-oDB650/870-1550F+2E	-A 6714-A110	77,0	155/5	815
-A 6727-A8	-oDB500/670-660F+E	-A 6727-A9	-oDB650/870-660F+E	-A 6727-A10	65,0	155/7	491
C 66 117-	**500 V/340 V**	C 66 117-	**650 V/430 V**	C 66 117-			
-A 6616-A23	-DS500/340-630F	-A 6616-A24			19	154/2	285
-A 6616-A28	-DS500/340-630F	-A 6616-A29			20	154/2	285
-A 6706-A28	-DS500/340-640	-A 6706-A29	-DS650/430-640	-A 6706-A30	21	155/3	707
-A 6706-A128	-DS500/340-840	-A 6706-A129	-DS650/430-840	-A 6706-A130	21	155/3	707
-A 6716-A28	-DS500/340-1100F	-A 6716-A29	-DS650/430-1100F	-A 6716-A30	30	155/4	—
-A 6716-A128	-DS500/340-1600F	-A 6716-A129	-DS650/430-1600F	-A 6716-A130	30	155/4	—
-A 6712-A128	-DS500/340-2600F	-A 6712-A129	-DS650/430-2600F	-A 6712-A130	69	155/5	707
-A 6726-A28	-DS500/340-930F	-A 6726-A29	-DS650/430-930F	-A 6726-A30	39	155/6	—

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